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HOW BELIEF SYSTEMS OF CLASSROOM TEACHERS AFFECT MANDATED CHANGE

by

ROBERT WAYNE WALKER ©

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The undersigned certify that they have read, and recommended to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled **How Belief Systems of Classroom Teachers Affect Mandated Change** submitted by **Robert Wayne Walker** in partial fulfillment of the requirements for the degree of **Doctor of Philosophy.**

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ABSTRACT

This study examines how teachers' belief systems impact their decisions when they implement new mandated curricula. Previous research indicated teachers do not implement curriculum as prescribed.

This is a multiple case study of a pilot participant and four experienced elementary classroom teachers who are currently implementing new mandated curricula. George Kelly's personal construct psychology was utilized to identify each participant's beliefs about effective teaching and change. Kelly's Repertory Grid instrument was used to identify individuals who taught them or with whom they worked to identify their beliefs about effective and ineffective teaching. Similarly individuals were identified who embraced or did not embrace change. Bipolar constructs were identified by each participant for beliefs about change.

Four interviews were conducted with each participant to gain an understanding of his or her beliefs about effective teaching and change and how those beliefs influenced his or her decisions in implementing new curricula. The beliefs about effective teaching and change, identified in the Repertory Grid elicitation of constructs, provided the focus for the interviews. After the data analysis for the interviews was completed, a focus group with all participants was conducted to clarify and to explore further the impact teachers' belief systems have in implementing mandated change.

The data from the Repertory Grid and the interviews revealed parents, teachers, principals, colleagues and friends influence the beliefs these teachers hold about what it means to teach effectively and to adapt to change. Furthermore, each participant has a set of beliefs about effective teaching and change that govern how he or she performs as a teacher.

When curricular change is introduced, the participants rated

themselves as less effective teachers in the first year of implementation. In the second and third implementation years each believed he or she was more effective in his or her practice.

The research also revealed all of the participants modify a curriculum to meet the needs of the children they teach and their own personal interests. Even external demands for conformity by policy makers through the use of provincial achievement tests, did not change the teachers' decisions to modify a curriculum. Decisions to modify were guided by what teachers believe to be effective teaching and their beliefs in how they embrace change.

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CHAPTER 1

HOW BELIEF SYSTEMS OF CLASSROOM TEACHERS AFFECT MANDATED CHANGE

Introduction

Background to the Problem

As I look back on my career as an elementary school teacher and principal, I am intrigued by a phenomenon that has shadowed me for that entire time. That phenomenon is change. When I began to teach in the mid 1960s, I considered my job to be quite easy and enjoyable. One, or at most, two grade classrooms were the norm and teacher-centred whole class teaching was in vogue. I had no sooner learned what I thought was the "teacher role," when a document was issued from the Ontario Department of Education informing me that how I was teaching was totally wrong. Instead, I should be following the philosophy of John Dewey and creating child-centred classrooms. Since I had just taken on the role of a principal, I was told that my job, along with teaching my own class, was to become a change advocate and curriculum leader. For those who know me, I could not resist the challenge.

In the early 1970s I devoted my talents to being part of writing teams for new Social Studies and Mathematics curriculum documents. In the late 1970s and early 1980s I was heavily involved in guiding various curriculum initiatives through the bureaucratic structure of the county in which I worked. In the early 1990s I undertook to coordinate an Excellence in Learning Research Project for the Ministry of Education.

With all of this experience in curriculum change, one might ask why the concept of educational change still interests me. As I look back on those years with their various experiences, I have come to ask, "What was really accomplished?" The Hall Dennis Report, *"Living and Learning,"* certainly challenged every teacher to reflect on what, how and why they were teaching the way they were. However, in the end, mandated liberal education values did not change the way the majority of teachers conducted themselves in their classrooms as has been pointed out by Tyack and Cuban (1995) and Fullan (1991) in their reviews of educational change in the twentieth century. My work, and that of many other dedicated teachers who wrote curriculum documents, did not change teaching practices in most classrooms. The joke that went around the schools was how much dust was collecting on all of our hard work. As well, all of my efforts on implementation strategies that I helped develop didn't affect classroom situations very much. Sure, a few ideas and materials were implemented but nothing compared to what was considered the ideal.

Even the Ontario Ministry of Education's Excellence in Learning Skills Project with all of its resources, professional development and guidance, as a major exemplary change initiative relying on the latest research methodology literature did not guarantee long lasting success. The school reverted back to many previous practices under the leadership of a more traditional principal a year after I left.

Over this past year I struggled to understand the concept of change and my role as a change advocate over those many years. My research led me to examine the whole breadth of the "Change Literature." I came to realize that many things beyond my control influenced what took place during my career. Tyack and Cuban (1995) in their book, *Tinkering toward utopia,* helped me to realize historically that a "grammar of schooling" exists which resists all manner of change. By this concept they refer to the traditions which have been implemented many years ago in public education that continue to influence practices and promote a static condition, which resists change. They cite such things as the "graded system" and the "Carnegie Unit" of promotion as impediments to the liberal progressive movements in this century. What has become most clear to me is that mandated change is not very easy to effect. This leads me to assert that " belief systems" as they exist in education are very difficult to change. If this is true for education systems, then is it not true as well for individual teachers?

Statement of the Problem

This leads me to pose my research question: **"Do teachers' belief systems formed around previous experiences affect their responses to implementing mandated change?"**

Overview of the Problem

There are many studies reporting the few successes and many failures of change initiatives. To condense this massive amount of research, Fullan (1991) in his book *The new meaning of educational change* summarizes many research studies to conclude that effective mandated change rests with the individual teacher. In Fullan's view, it would appear that after decades of trying to manipulate change, it comes down to what each and every teacher does in his or her classroom that determines what change takes place.

I have yet to find any studies which comprehend what it means for a teacher to change. In the mid to late 1980s Hall and Hord (1987) advanced a change approach for individual teachers called "Concerns-Based Approach" or CBAM for short. It was their contention that by establishing a model to examine teachers' concerns, a change initiative, a professional development program could be tailored to meet those concerns. While some studies of this method have followed in recent years (e.g., Bailey and Palsha, 1992; Shotsberger and Crawford, 1996), it is apparent that this approach to change has not met with a high degree of success, with caution being urged by these researchers.

Some research (Pajares, 1992) was completed in the mid 1980s on teachers' belief systems as they relate to knowledge acquisition. Jan Nespor (1987) in his article, "The role of belief in the practice of teaching," puts forth a strong argument that teachers' belief systems play a profound impact on how, why, and what they teach in their classrooms. He goes so far as to say that beliefs have a stronger affective and evaluative component than cognition. His theories of the importance of beliefs affecting teachers' actions are supported by individuals such as Pajares (1992), Lewis (1990), Pintrich (1990), Sigel (1985), Dewey (1933), Rokeach (1968), Clark (1988), Peterman (1991), Kitchener (1986), and Guskey (1986).

Meaning of the Terms

This brings me back to my question about how belief systems influence the responses that teachers make in their classrooms. By "belief systems" I use the Longman Dictionary of Psychology and Psychiatry definition which states that the concept of "beliefs" is a value matrix. It is the set of judgments and values a subject uses in interfacing with his environment. The same dictionary goes on to describe "belief system" as an individual's more or less organized set of attitudes, opinions, and convictions that implicitly affect his behavior, interpersonal relationships, and attitudes toward life.

The Researcher's Challenge

Since there would seem to be support for my contention that teacher belief systems influence teacher behaviour, I decided to examine how these belief systems operate when a mandated change is thrust upon individual classroom teachers. The following research examines the historical perspective of teachers' belief systems and how previous beliefs, attitudes and values that wrap around previous learning experiences impact on their present actions in mandated change situations. However as Nespor (1987) points out, studying belief systems is not an easy accomplishment. Unlike many forms of research which can be objectively measured or even subjectively secured, beliefs are often buried in individual memory as an episodic event. This presented a major challenge to me as I began this study.

The Planned Course

How does a researcher obtain data on belief systems? Initially, I examined several methodologies utilized in educational research to obtain personal, practical knowledge that teachers use each day in their classrooms. The range of methodology stretches from several quantitative approaches to qualitative methods such as focus groups, case studies, observation, interviews, journal writing, etc. After reviewing various methodologies, I decided that the multiple case study approach would best meet the needs of research that is attempting to comprehend belief systems. Since this research required an in-depth study, I limited my research to a maximum of four participants. I felt this small number of participants was justified when I looked at the rich data and theory building Elbaz (1983) completed on only one participant and reported in her book *Teacher thinking: A study of practical knowledge*. While this research called for a case study approach, it was my plan to ensure the validity of the research through a variety of data collection approaches such as utilization of Kelly's (1955) Repertory Grid, teacher interviews, classroom observation and a focus group interview.

In conclusion, with the failure of many previous mandated change initiatives to impact classroom practices and the call from the literature to address the needs of individual teachers, I decided that the area of teachers' belief systems as they relate to mandated change required examination. When I commenced this research, it was my hope that the findings would have a significant impact on how the concept of change is understood in the future.

CHAPTER II

COMPREHENDING CHANGE AND BELIEF SYSTEMS

Introduction

When I initially commenced my examination of the change literature, I found a wealth of studies completed during this century to explain why mandated change had or had not occurred in specific situations. Initially I examined change from an historical perspective and then the twentieth century conceptualization of educational change. I progressed from the broad organizational framework to the individual teacher's conceptualization of change. I completed my literature review with the literature on teacher's belief systems as they affect their professional knowledge acquisition.

Meaning of Change

> For time changes the nature of the whole world
> and all things must pass on from one condition
> to another, and nothing continues like to itself;
> all things quit their bounds; all things nature
> changes and compels to alter.
> Lucretius

In our lives we continually struggle for meaning. We are, who we are, because of all the changes that have engulfed us. Change, not only influences our present actions but also determines our future actions.

To comprehend the concept of change, I looked up the meaning and origin of the word. According to Webster's Third New International Dictionary (1986), the verb change means:

1. to make different.
   - a. to make different in some particular but short of conversion into something else.
   - b. to make over to a radically different form, composition, state or disposition.
   - c. to dispose of or give up toward the substituting of something roughly equivalent.
   - d. to give a different position, status, course or direction.
   - e. to shift or transfer in position.
   - f. to give a contrary character or trend.

Further examination indicates that the word change comes from the Latin word *cambiare* which means to exchange. It also has its origins in the Greek word *skambos* which means crooked.

The *Dictionary of Education* (1973) refers to "change" as the complete or partial alteration of an item in form, quality, or relationship (p.89).

I also examined Fairchild's (1951) *Dictionary of Sociology* to determine another perspective on the concept of change. Change involves motion, modification, becoming, not merely difference through time, in the object to which this is applied. A change is said to have taken place when an object or member of a system of moving things has been positionally shifted in such a way that the structural arrangement of the system is different. A causal relationship exists between two objects or entities when change in the one has resulted in a change in the other (p. 136).

Since the sociological definition points out, change takes place on an object or member of a system, one would expect a dictionary of psychology to have a great deal to say about the word change. Strangely, the concept is almost nonexistent in psychological literature which prefers to deal with the subject in a behavioural fashion. Maybe this is why my fascination with change dwells more on the personal level rather than on the structural and organizational concept of the term. As an elementary school principal for many years, I was the one who was expected to effect change in my school. However, there are many "slips between the cup and the lip" and my changes often didn't become other people's changes. Suffice it to say that much has been written over the centuries about change but in the recent literature very little is said about the personal narratives of change and this is where I must begin.

History of Change

Lucretius' poem at the beginning of this section leads back in time to the roots of change as a concept. Robert Nisbet (1969) in his book *Social Change and History* points out that, to the ancient Greeks, change was synonymous with growth. In fact, the whole idea of growth was seen in a metaphorical way, comparing human growth and change to that of seeds that grow into beautiful plants and then move on to death and decay. Unlike our often isolated view of change and the life process, the Greeks saw it in cyclical terms. These cyclical forms existed not only in nature and for human beings but also for society and its institutions. To the Greeks everything has a genesis, stages of growth and eventually decline and death. To highlight this, Nisbet states, "...growth and development in civilizations and societies and cultures, with all that is clearly implied by these words: change proceeding gradually, cumulatively, and irreversibly, through a kind of unfolding of internal potentiality, the whole moving toward some end that is presumably in the process from the start" (p. 3). To the Greeks all things and all people, whether individually or collectively as a society, were caught up in this cyclical manner. "The Greeks above all people known to us in antiquity, were fascinated by change, its source, properties, directions, and its relation to the principles of organic growth. Aristotle built an entire system of philosophy around the principle of growth" (p. 16). Out of this concept came the Greek word, *physis* and later the Romans adopted the word *natura* to describe this cyclical and phenomenological conception of all organic life.

> What did suggest the problem of progress and degeneration to the Greek mind - and with it the developmental or evolutionary relation of present to past - was, of course, the idea of *physis*. Plainly, if everything in the universe has its *physis* - its inherent pattern of growth, its fixed succession of stages, its purposes - then so does mankind, so does culture, within whatever dimensions of time and space these abstract entities may be regarded. (p. 45)

The Individual and Change

By examining change from a progress and growth perspective, I am laying the groundwork for a concept that all change, whether societal, institutional, or individual, must be viewed as history. Change, therefore, must be seen as a change in the history of the society, the institution or each particular individual. My question is: How does each individual teacher deal with, modify, or reject change initiatives that enter their professional landscape considering the belief systems each person holds?

In my review of the literature I have found that many individuals who have tried to promote change, did not fully comprehend the historical process of change with failure being the result. Popper (1957) points out the dilemma of individuals in society trying to effect change initiatives when he states, "It is for many reasons quite impossible to control all, or nearly all, these relationships; if only because with every new control of social relations we create a host of new social relations to be controlled. In short, the impossibility is a logical impossibility" (pp. 79 - 80). A further quote from Tyack and Cuban (1995), sum up what happens in education when well-meaning change agents attempt reform. "For over a century, ambitious reformers have promised to create sleek, efficient school machines 'light years' ahead of the fusty schools of their times. But in practice their reforms have often resembled shooting stars that spurted across the pedagogical heavens, leaving a meteoric trail in the media but burning up in the everyday atmosphere of the schools" (p. 111).

Popper's historical view of change mirrors that of Cuban's in his assessment of what seems to go wrong when individuals believe that they can somehow cause others to effect their view of a particular change. Popper points out that considerable inconvenience is caused to others in the process. As a result, there is a tendency to oppose such plans and complain about them. In turn the planner of change often turns a deaf ear to such complaints and pushes ahead anyway to get the job done. "It will be part of his business to suppress unreasonable objections. But with them he must invariably suppress reasonable criticisms too" (Popper, 1957, p. 89). Therein lies a crucial fact of why so many planned changes fail and implementation takes many forms. The communication is only one way. That is, the individual who must adopt and implement the change is given no voice in the process. Popper continues that the holistic planner finds it easy to centralize power but impossible to centralize all of that knowledge which is distributed over so many individual minds. Since the planner cannot get inside the minds of the individuals, the only alternative he sees is to simplify the problems by eliminating individual differences. This approach allows him to control and stereotype interests and beliefs by education and propaganda. "But this attempt to exercise power over minds must destroy the last possibility of finding out what people really think, for it is clearly incompatible with free expression of thought, especially of critical thought. Ultimately it must destroy knowledge; and the greater the gain in power, the greater will be the loss of knowledge" (pp. 89 - 90). I find this quote to be quite disturbing when we consider the great waste of valuable knowledge that has been lost in this century due to change agents dismissing the personal professional knowledge of teachers. However, I think we can understand the essence of Popper's words when we see how Tyack and Cuban (1995) address this issue. " If reformers have had their plans for schools, people in schools and local communities have had their own ways of dealing with reforms" (p. 7).

I have found in my search of the literature that a great gulf seems to reside between the organizers of change and those affected by that reform. Historians of sociology prefer to study the macro effects of change or lack thereof. Psychologists, whom one would expect to rush to examine the individual perspective, appear quite silent on the change process as it affects the teacher. This dilemma has left me searching for a social psychological perspective. Homans (1987) has assisted me in filling in that gap to a certain extent. His approach to the social history of civilization is best summed up by the following statement, "if a serious effort is made to construct theories that will explain social phenomena, it turns out that their general propositions are not about the equilibrium of societies but about the behaviour of men" (p. 15). Homans points out that theorists of social change will not be able to achieve change in institutions unless they have a good and truthful theory of human behaviour (pp. 66 - 67). He further states that in human behaviour, whether social or not, our major premises are never propositions about groups as much as propositions about individuals (p. 79). Homans best sums up his view of the relationship of the institution to the individual and vice versa when he says, "Individuals ultimately make their institutions and not institutions, individuals, in the following sense. Whenever we observe institutions being changed, it is always individuals that we find changing them, though the individuals in question may all be acting the same way. Since all institutions are created through a process of change, it follows that human beings make their institutions" (p. 80). Homans goes on to say that while institutions act on individuals, who may carry out the norms of the institution more or less well, these individuals will conform more or less closely. The result is that the variation in behaviour of individuals even within a given culture is obviously very great (p. 80).

Organizational Change

Having examined the influence of the individual on institutions, I would like to explore why some elements of change initiatives seem to last sometimes for years and even for centuries. Gross (1992) conveys what he terms institutionalizing tradition to explain this phenomenon. "When traditions are institutionalized they begin to be conveyed and received formally, not tacitly. The rules and procedures of transmission become more tightly controlled. Often an official canon of acceptable traditions emerges which become rigid and exclusionary" (p. 17). Gross goes on to say that these traditions throughout history have been turned over to institutions of learning where they are communicated as highly specialized bodies of information, often with degrees and certificates to prove intellectual mastery. Probably one of the most well known examples of this is the rise of the university in medieval Europe from the twelfth to the fifteenth century. As Haskins (1923) points out in the *Rise of universities* the curriculum, structure and rituals come down to us today in much the same form as they were conceived five centuries ago.

Tyack and Cuban (1995) state "reforms that enter on the ground floor of major institutional changes have a good chance of becoming part of the standard institutional template" (p. 86). They identify such things as the chalkboard, the graded school and the Carnegie unit which outline what determines a high school credit as examples of such templates. Tyack and Cuban term these standardized institutional templates as the 'grammar of schooling'. "Inside the schools, the grammar of schooling offered a standardized way to process large numbers of people. The grammar was easily replicable. The institutional design of graded schools produced a cookie-cutter sameness. The departmentalized high school had a greater variety of offerings but a uniform system of accounting, the Carnegie unit. Administrators, teachers, and students learned how to work in this system; indeed, the grammar of schooling became simply the way schools worked. Over time, the public, schooled in the system, came to assume that the grammar embodied the necessary features of a 'real school' " (p. 107). In Canada, the grammar of schooling laid down its template for public schooling in 1840s Upper Canada. Egerton Ryerson, the Chief Superintendent, established a pattern for our school system that has structurally lasted to the present day. George Tompkins (1986) views Ryerson's template for school as a way of dealing with a large influx of immigrants and a question of where children fit into early Canadian society. "Increasingly, children came to be viewed as a class that should, as far as possible, be segregated from society. This was to be achieved by keeping more of them in school for longer periods. Segregation of pupils by sex, age, and achievement was intended to improve economy, efficiency and morality; it also permitted grading and classification" (Tomkins, 1986, p. 31). For Ryerson, education was a means to an end. During those early pre and post Confederation days, institutionalized traditions in curriculum became embedded in our public schools. Canadian educators were heavily influenced by the English social philosopher Herbert Spencer, who in 1859, raised the question that would dominate curriculum policy-making for generations, "What knowledge is of most worth?" (p. 37). John Watson of Queen's University laid down his template vision of curriculum by emphasizing a moral and intellectual function of schooling favouring a common compulsory humanistic curriculum for all, with students going as far as their various abilities could carry them (p. 36). In the 1880's a further tradition was established following what the British sociologist Eggleston called high status versus low status knowledge with the establishment of manual training for low status, non-academic students. With this backdrop of educational history we can gain a clearer understanding of the monumental changes various professional educators have tried to effect so as to break down or modify those institutionalized traditions.

Twentieth Century Educational Change

Cuban (1990) views change processes in the twentieth century as being cyclical in nature but adds that even pendulums have an erratic swing. He views mandated changes as challenges to the grammar of schooling that was established generations ago.

> In the years when conservative values stressing private interests ran strong, for example, in the 1920's, 1950's, and 1980's, schools were concerned with producing individuals who could compete. Hence, high academic standards, orderliness, efficiency, and productivity were prized in schools. In the years when politically liberal values dominated, such as in the early 1900's, 1930's, and the 1960's, concerns for minorities, the poor, and other outsiders prompted school reforms that broadened student access to programs, linked schools to work in the community, and reduced academic achievement gaps between groups of students. (p. 7)

Tyack and Cuban (1995) explain further that although many liberal or progressive values have consistently challenged the many conservative traditional values, the grammar of school has usually won out over reform initiatives. They cite examples such as the 1920s Dalton Plan and the Eight-Year Study from 1933 to 1941 and their ultimate failure, to illustrate two major initiatives that challenged the Carnegie unit replacing it with a child-centred approach to teaching secondary students. Ten years later the authors point out that very little could be seen to even say that they had ever tried to change the system. Evaluation supported the success of the children who were involved but both efforts failed to last. To better understand why grandiose initiatives such as these fail, some of the reasons participants gave were: teachers were exhausted by the demands placed on them; challenges came too quickly; it was too labour intensive; there was a turnover of teachers and administrators; traditional educators challenged the initiatives; and not all students' needs were met and some exhibited greater discipline problems (Tyack & Cuban, 1995, p. 101). Tyack and Cuban (1995) make the following observation, "Even if the reforms gradually faded, participants questioned in basic ways what they were doing and were energized by collaboration with colleagues. What they learned still remained part of their potential repertoire when their schools returned to more conventional patterns" (pp. 108-109). This statement would seem to lend support for the need to study how the teachers' belief systems influenced their teaching practices.

In the first half of this century we see the continuation of the effects of an elitist system of education controlled by what Tyack and Cuban (1995) call 'administrative progressives' who held the view of a place for every child and every child in his or her place (p. 20). In the second half of the twentieth century Fullan (1991) points out, educational change can be seen as an evolutionary process with greater understanding being gained over that period of time. Through the learning experiences of various mandated change initiatives over that period of time, we have come to have a greater understanding of the issue. Fullan (1991) sums up our present understanding of the concept. "As implementation is the essence of change, it follows that the teacher as implementer is central" (pp. 10-11).

Four Commonplaces of Educational Change

Schwab (1983, p. 241) identified what he termed "the four commonplaces of education" as the place to begin when we examine the introduction of new curriculum initiatives and Connelly and Clandinin (1988, p. 84) elaborated on this concept. The four commonplaces were identified as the teacher, student, subject matter, i.e., what is taught, and the milieu of teaching-learning. These authors argue for a balance among these four commonplaces. As Schwab states, "My repeated insistence on the theoretically equal importance of the several commonplaces has been repeatedly taken to mean that in all and every curricular debate, each of the commonplaces should be given equal weight" (p. 241). Since most change initiatives over the past several years have involved some aspect of curricular change, I would like to analyze some change initiatives as they relate to the classroom teachers and their perceived failures or successes in light of the "four commonplaces".

Over the last half of this century change continues to take on the face of "control." Often those on the receiving end of those control measures are the classroom teachers. The efforts to manipulate and change the actions of individual classroom teachers were most blatant in the "teacher-proof" curriculum. While many studies could be reported on this issue, I report just one as it represents the others. I selected the following study because of its relevance to education today. It identifies Apple and Jungck's (1991) research report entitled *You don't have to be a teacher to teach in this unit: Teaching, technology and control in classrooms.* As the authors point out, in order to implement a program of computer literacy, teachers were given prepackaged textual and worksheet material, pre-specified lists of behaviourally defined competencies, pretests and post tests, record keeping and reporting requirements all conspired to what the authors call the "intensification of labour." As one of the four commonplaces, the classroom teacher is totally removed from this change initiative except as a transmitter and manager. Is it any wonder that the effective use of technology has so often failed to make an impact on our classroom practice (Tyack & Cuban, 1995, p. 124-125)? Whiteside (1978) illustrates the concept of those desiring to manipulate others into a change initiative with the following words ,"...the fact that innovations are still means by which some people organize and control the lives of other people and their children according to their conceptions as to what is preferable. It disguises the reality that some people benefited from them while others did not, and that some consequences were intended while others were not" (p. 20).

While outright manipulation of teachers through the use of 'teacher-proof' curriculum may be the most blatant attempt to intentionally eliminate one of the four commonplaces, many, if not most, system-wide reform movements have proven to be equally negligent of the place of the classroom teacher. Sarason (1971) identifies quite succinctly the problems faced by those initiating system-wide reform. "What is so strange here is that those who initiate this degree of change are quite aware of two things: that different schools in the system can be depended on differentially to respond to or implement the proposed change, and they, the sources....do not have the time adequately to oversee this degree of change" (pp. 213-214). Sarason (1990) also goes on to state that many changes are undertaken with understandings that are frequently faulty and incomplete (p. 61) In effect, Sarason is agreeing with Schwab of the importance of understanding all four commonplaces before system change is undertaken. Fullan (1991) also points out that even though most jurisdictions utilize teachers on writing teams in the developmental process, their learning cannot necessarily be passed on to other teachers. "While selected teachers thus develop materials, once the materials are ready for use they are no more meaningful to rank-and-file teachers (who are seeing them for the first time) than if they had been produced by publishers or district specialists. It is the members of the committee who have developed their subjective meaning, not anyone else" (pp. 62-63). With that one statement Fullan points out a reason for system implementation failures. He further points out one of the major mistakes that is often made in such change processes, that is by involving some teachers, other teachers will accept the change more readily (p. 127). The emphasis here is on the word accept instead of on the word understanding. System organizers seemed to believe in some sort of change by osmosis, from one teacher to another. Whatever the reason, the teacher, was bypassed and left out of the process. "The main reason for failure is simple - developers or decision-makers went through a process of acquiring their meaning of the new curriculum. But when it was presented to teachers, there was no provision for allowing them to work out the meaning of the changes for themselves"(p. 112).

Studies of Educational Change

With the dismal success of school districts to effect system-wide reform, several studies analyzed the professional development component to determine the causes of failure. Little (1989) completed a comprehensive study of staff development in California and her comments speak clearly to the lack of addressing the 'four commonplaces.' She states that most professional development is "expressed by (a) a range of activity determined largely by a marketplace of packaged programs and specially trained presenters, (b) uniformity and standardization of content, with a bias toward skill training and (c) relatively low intensity with regard to teacher time, teachers' involvement, and the achieved fit with specific classroom circumstances" (p. 173). This statement by Little sounds familiar. I believe I could probably generalize from my own experiences that this type of professional development has been the norm over the past half century. Fullan (1979) summarizes seven reasons for the lack of success in in-service teacher education:

> 1. One-shot workshops are widespread but ineffective.
> 2. Topics are frequently selected by people other than those for whom the in-service is intended.
> 3. Follow-up support for ideas and practices introduced in in-service programs occurs in only a very small minority of cases.
> 4. Follow-up evaluation occurs infrequently.
> 5. In-service programs rarely address the individual needs and concerns.
> 6. The majority of programs involve teachers from many different schools and/or school districts, but there is no recognition of the differential impact of positive and negative factors within the system to which they must return.
> 7. There is a profound lack of any conceptual basis in the planning and implementing of in-service programs that would ensure their effectiveness. (p. 3)

Pink (1989) echoes Fullan's summary of the deficiencies of in-service programs. Pink identifies twelve factors that act as barriers to effective staff development (pp. 21-22). Interestingly almost all of Fullan's and Pink's factors relate to the imbalance accorded to the four commonplaces, specifically referring to teachers' needs being overlooked. Marris (1974) sums up well the failure over the years of those in positions of power who try to effect change.

> When those who have power to manipulate changes act as if they have only to explain, and when their explanations are not at once accepted, shrug off opposition as ignorance or prejudice, they express a profound contempt for the meaning of lives other than their own. For reformers have already assimilated these changes to their purposes, and worked out a reformulation which makes sense to them, perhaps through months or years of analysis and debate. If they deny others the chance to do the same, they treat them as puppets dangling by threads of their own conceptions. (p. 166)

With this mind set is it any wonder why so many professional development exercises aimed at change seem to fail?

On the other hand, Stallings (1989) indicates that successful staff development takes into consideration a balance in the commonplaces by following the cornerstones of her model:

* Learn by doing - try, evaluate, modify, try again.

* Link prior knowledge to new information.

* Learn by reflecting and solving problems.

* Learn in a supportive environment - share problems and successes.

(p. 4)

Loucks-Horsley, Harding, Arbuckle, Murray, Dubea, and Williams (1987) state,

> Teacher development is a complex process whose success depends upon a favourable context for learning and practical, engaging activities. Availability of resources, flexible working conditions, support, and recognition can make all the difference in the desire of teachers to refine their practice. Similarly, staff development experiences that build on collegiality, collaboration, discovery, and solving real problems of teaching and learning summon the strength within a staff, instead of just challenging them to measure up to somebody else's standard. The focal point for staff development is the

> individual, working with others, trying to do the best job possible of educating children. When staff development emphasizes an idea or an approach without considering the person(s) who will implement it, the design and results are weakened. (p. 7)

Once again Loucks-Horsley and associates illustrate the strong need for balance. Their comments on the need for this balance among the four commonplaces are spelled out in their ten characteristics of successful teacher development (p. 8).

Individual Teacher Knowledge and the Change Process

With the research strongly recommending the need for change agents to address the knowledge and beliefs of classroom teachers, questions of what knowledge teachers require to teach effectively in a changing environment are raised. Sharon Feiman-Nemser (1990) identifies five orientations to be considered in the training of teachers; personal, practical, critical, technological and academic orientations (p. 227). Briefly, the personal orientation deals with learning to teach as a transformative process, the practical and technological represent different ideas about the nature and sources of knowledge about teaching, the critical orientation highlights teachers' obligations to students and society, and the academic focuses on the distinctive work of teaching academic content. When we consider these five orientations of teacher education, we can begin to see the problems change agents have encountered over the years. Many professional development exercises have addressed the practical, technological and academic orientations but have ignored the personal and critical. Tsujimoto (1990) recounts his struggle to determine what knowledge makes a teacher memorable or great. He tells us of his early struggle as a first year teacher trying to piece together his meaning of theory and practice. I was struck by the intuitiveness of the knowledge he held as a teacher after seven years of classroom experience.

> What is ultimately taught is the teacher, the one who embodies the idea that students have the power to create their own worlds...The great teacher - or, as is more often the case, the instances of great teaching by good teachers - transcends personality and philosophy, which are merely vehicles for illumination of wisdom - or knowledge made beautiful. In such instances, the teacher is so immersed in his reading, or in his speaking, or in his characterization that he sheds all consciousness of self. And the students see embodied before them the very spirit of learning: the very subject to be learned. It may then be said, 'What is ultimately learned is the teacher'. (pp. 7-8)

Tsujimoto's experience leads us to conclude that learning to teach is a lifelong experience of a very personal nature. Fullan points out that if educational change is to happen, it will require that teachers understand themselves and be understood by others (Fullan, 1991, p. 117). He also states that, "change is a highly personal experience - each and every one of the teachers who will be affected by change must have the opportunity to work through this experience..." (p. 127). Schon (1971) illustrates the very personal nature of change when he says that all real change involves "passing through the zones of uncertainty...the situation of being at sea, of being lost, of confronting more information than you can handle" (p. 12).

The very personal nature of teacher knowledge is further illustrated by Huberman (1988) in his study of 160 teachers in Switzerland that confirmed that throughout a teaching career, educators pass through particular personal phases in their teaching. He identified them as follows: survival and discovery (years 1-3), stabilization (years 4-6). experimentation and diversity (years 7-18), to focusing down (19 or more years) (p.119-132). Huberman's findings illuminate the need to address individual teachers needs in the change process in the various stages of their careers.

Isolation further complicates learning about what teachers know. Even though teachers work in a community of learners in the classroom, such is not the case in schools. The grammar of schooling has presented teachers with the isolated box classroom as the norm for education in the nineteenth and twentieth century and efforts such as the open concept schools of the 1960's and 70's have not changed the 'real' school to any extent. The concept of a teacher working in a community without being part of a larger collegial family has further reinforced the importance of change as it affects each individual teacher. Nias (1989) attempted to understand the personal disposition that teachers bring into the classroom context. She discovered that teachers have a "deeply held substantial view of self" (p. 268) that they felt had to be defended and affirmed in contemporary classroom contexts. It is her belief that protecting their "substantial self" can frequently lead teachers to avoid situations that might bring disagreement or differences, thereby reinforcing norms of isolation and privacy in the workplace. Rosenholtz (1989), in her study of 78 schools in Tennessee, echoes Nias' findings. Schools that she termed 'stuck' or 'learning impoverished' displayed severe signs of the effects of isolation of their teachers. This isolation was characterized by

> little attachment to anybody or anything. Teachers seemed more concerned with their own identity than a shared community. Teachers learned about the nature of their work randomly, not deliberately, tending to follow their individual instincts ....teachers talked of frustration, failure, tedium and managed to transfer those attributes to students about whom they complained. (p. 208)

As a further result of this isolation Crandall and associates (1982) highlight that "teachers tend to function intuitively and rarely spend time reasoning about how they carry out their jobs" (p. 29).

Reflection and Teacher Knowledge

No study of educational change and a study of belief systems would be complete without an examination of the concept of "reflection." Donald Schon's (1983) book *The reflective practitioner: How professionals think in action* relies heavily on a milieu that encourages communication among teachers so that meaning can arise for each teacher. Schon terms reflective process as "reflection-in-action." "Reflection on knowing and reflecting-in-action is a process of getting in touch with understandings we form spontaneously in the midst of action. It is central to the work of criticism, coaching, learning, and teaching" (Schon, 1992, p. 124). Out of reflection-in-action comes what Schon terms "knowing-in-action," located not only in the actions but also in the objects in relation to which we act. "Knowing-in-action draws on prestructures that guide our seeing, thinking, and doing in familiar situations" (p. 124). Schon agrees with John Dewey (1938) who states "Education does not occur in a vacuum. There are sources outside an individual which give rise to experience" (p. 40). He goes on to say that "a fully integrated personality exists only when successive experiences are integrated with one another. It can be built up only as a world of related objects is constructed" (p. 44). Relating back to the very beginning of this paper when I considered change as a process and as growth, I concurred with Dewey's statement: "Education as growth or maturity should be an ever-present process" (p. 50).

Dewey's words bring me to consider the individual teacher and the change process. Connelly and Clandinin (1990) identify narrative inquiry as the most informative of the ways in which teachers make sense of their lives and roles in educational contexts. Essentially, the study of narrative is the study of the ways humans experience the world. Accordingly, education is seen to be "the construction and reconstruction of personal and social stories; teachers and learners are storytellers and characters in their own and other's stories" (p. 2). Teachers' stories are seen by Connelly and Clandinin as much more than mere accounts of their lives. They are actually seen to be a critical medium by which teachers make sense of their work:

> We are continually trying to give an account of the multiple levels (which are temporally continuous and socially interactive) at which the inquiry proceeds. The central task is evident when it is grasped that people are both living their stories in an ongoing experiential text and telling their stories in words as they reflect upon life and explain themselves to others. For the researcher, this is a portion of the complexity of narrative, because a life is also a matter of growth towards an imagined future and, therefore, involves retelling stories and attempts at reliving stories. A person is, at once, engaged in living, telling, retelling and reliving stories...Seeing and describing story in the everyday twist of mind on behalf of the inquirer. It is in the telling and retellings that entanglements become acute, for it is here that temporal and social horizons are set and reset. (p. 4)

With this framework for understanding of how individual teachers construct their practical knowledge, how do we comprehend the concept of change? I believe Vivian Paley (1986) makes two very profound statements in this regard.

> Clearly, it is not enough simply to copy someone else's teaching manner; real change comes about only through the painful recognition of one's own vulnerability (p.123). And teaching, in a way makes sense to me when I pretend the classroom is a stage and we are all actors telling our stories. (p. 128)

Change for Vivian Paley is more fully comprehending the role she is playing on the stage she calls her classroom. In her classroom the four commonplaces come together in a rich experience as she and the children live out their narratives of experience. Maxine Greene (1993) offers further support for the previously quoted authors on the need to consider teachers' personal practical knowledge embodied in narratives.

> Today we are far more likely, in the mode of John Dewey and existentialist thinkers, to think of selves as always in the making. We perceive them creating meanings, becoming in an intersubjective world by means of dialogue and narrative. We perceive them telling

> their stories, shaping their stories, discovering purposes and possibilities for themselves, reaching out to pursue them. (p. 213)

While many change agents would probably throw up their hands and say that it is virtually impossible to meet the needs of every teacher in a change process, Greene offers the following statement.

> If there is to be a truly humane, plague-free community in this country, it must be one responsive to increasing numbers of life-stories, to more and more "different" voices. Yes, many of the shapes are alike; there are tonalities that resemble one another, that merge. But there are differing nuances, shimmering contours; no one exactly duplicates any other. This is what ought to be attended to, even as we resonate to what is common, what is shared. (p. 218)

Elliot Eisner (1988) indicates that, in the past, change efforts have failed due to "the irony of purporting to develop a knowledge base that will inform practitioners, while creating a language and a professional structure that distances itself from practice" (p. 19). He endorses the concept of personal practical knowledge with this statement. "Representation must give way to the primacy of experience. In the end, it is the qualities we experience that provide the content through which meaning is secured" (p. 16).

Tyack & Cuban (1995), from their perspective as educational historians, echo the need for reform to acknowledge that teachers have their own "wisdom of practice." "We suggest, reforms can be deliberately designed to be hybridized to fit local circumstances. In this way, educators can adapt innovations to the on-going lives of their schools and seek to create coherence where it counts the most - in classroom instruction" (p. 64).

Belief Systems and Knowledge

As we reach the apex of my pyramid on the literature of educational change and more specifically, individual teacher change, I turn to how belief systems interact with that process. This has led me to look at how teachers' beliefs and practical knowledge intersect each other. Research in the period 1985 - 1992 has been particularly characterized by an emphasis on the content and nature of teachers' knowledge and beliefs and on the process involved in the growth of professional knowledge in teaching (e.g., Calderhead, 1996, Pajares, 1992). However, research on teachers' cognition reaches back to the early 1970s. Since that time the question that seems to predominate the literature is; how do teachers understand their work and the thought processes, judgments, and decisions that their work involves? Cognitive psychology played an important role in the development of this concept. The view that human beings were capable of constructing their own reality and responding to it in unique and idiosyncratic ways directed psychologists' interests to the interaction of knowledge, thought, and behaviour and led to many fruitful areas of inquiry (Calderhead, 1996, p. 710).

In the 1970s studies typically focused on teachers' decision-making and then moved into a phase when decision-making was linked to perceptions, attributions, thinking, judgments, reflections, evaluations and routines. The third phase in recent years focused on investigating the knowledge and beliefs that lay behind the practice of teaching (p. 710). These various studies gave rise to a question which divides many educational researchers today. Is there such a thing as teachers' craft knowledge or are teachers, over their career, building a personal practical knowledge base that is unique to them?

However, the difficulty with tying belief systems to the study of the acquisition of professional knowledge has been experimented with and debated by many researchers. Yinger (1980) promoted the form of "thinking-aloud commentaries" as a way to study beliefs. Clark and Peterson (1978) initiated the concept of "stimulated recall" by having research participants watch themselves teach on a video tape. "Structured interviews" immediately followed an observed lesson to discuss perceptions and judgments. Some researchers used "teachers' talk" about their teaching in an interview context as a source of data for inferring teachers' conceptual models, metaphors, and ways of thinking about teaching.

Kelly's (1955) development of a repertory grid and card sort technique was an attempt to map out teachers' understandings. While this methodology has been used to delve into the area of peoples' personal constructs and more specifically beliefs, attitudes and values (Nespor, 1987), it has not received wide approval. Kagan (1992) points out that concept mapping imposes a particular structure on teachers' thinking, presuming that teachers' understandings are reducible to a set of propositional concepts and relations rather than a richer amalgam of less easily defined thoughts and feelings.

The use of narrative inquiry has attempted to bring the teacher into a much more predominant role. Most other referred to types of research rely on the researcher devising various instruments to extract meaning in the form of data from the participants. Narrative inquiry asks the participants to create their own reality through reflection-in-action (Schon, 1983). This is a major departure in research methodology from the more traditional approaches. In narrative inquiry the researcher becomes a facilitator assisting the participants to relate their various storied lives and in doing so, to make sense of those experiences. I believe what is unique about narrative studies is that the source of teachers' perspectives is their own teaching and often takes a broader focus, examining teachers' practice in the context of other life experiences.

This leads me back to examine the concept of belief systems and teacher knowledge. Several researchers have suggested that some of teachers' knowledge may be better represented in terms of metaphors and images.

Munby (1986) demonstrated that there are frequently metaphors in teachers' talk that may well indicate how teachers think about their practice. Several narrative studies have demonstrated how teachers' past experiences can provide ways of thinking about teaching. Lakoff and Johnson (1980), in their book *Metaphors we live by*, argued there are deep structural metaphors, derived from past experience, that shaped our understandings and perceptions of social situations. To emphasize how important the concept of metaphor is, Lakoff and Johnson state:

> Metaphors have entailments through which they highlight and make coherent certain aspects of our experience. A given metaphor may be the only way to highlight and coherently organize exactly those aspects of our experience. Metaphors may thus be a guide for future action. Such actions will, of course, fit the metaphor. This will, in turn, reinforce the power of the metaphor to make experience coherent. In this sense metaphors can be self-fulfilling prophesies. (p. 156)

Lakoff and Johnson, I believe, are pointing the way for me to examine the concept of how historically held personal belief systems impact present actions as teachers face new mandated change initiatives. I would like to add one more quote from Lakoff and Johnson to reinforce how they would see these two concepts fitting together.

> Metaphor is one of our most important tools for trying to comprehend partially what cannot be comprehended totally: our feelings, aesthetic experiences, moral practices, and spiritual awareness. These endeavours of the imagination are not devoid of rationality; since they use metaphors, they employ an imaginative rationality. (p. 193)

In conclusion, the difficulty that seems to arise when the concept of beliefs is used in research, is the numerous ways that it is addressed. As Pajares (1992) pointed out, such terms as beliefs, values, attitudes, judgments, opinions, ideologies, perceptions, conceptions, conceptual systems, preconceptions, dispositions, implicit theories, personal theories and perspectives have frequently been used almost interchangeably, and it is sometimes difficult to identify the distinguishing features of beliefs and how they are to be separated from knowledge. Nespor (1987) suggested that beliefs tend to be organized in terms of larger belief systems, which are loosely bounded networks with highly variable and uncertain linkages to events, situations and knowledge systems. This analogy of what a belief system is seems to support my definition in my introductory remarks. The challenge for this researcher is to unlock those personal, historic belief systems to determine their impact on teachers' responses to mandated change.

Kelly's Personal Construct Theory

A psychological perspective on beliefs comes from the writing of George Kelly (1970) in what he called *Personal construct theory*. The fundamental of personal construct theory is that

> Each person erects a personal representational model of the world which allows some sense to be made of it and which enables the person to 'chart a course of behaviour in relation to it.' These representational models are composed of a series of interrelated *personal constructs* or tentative hypotheses about the world. Constructs are used by a person to describe present experiences and to forecast events (theory building). Constructs also allow assessment of the accuracy of previous forecasts after the events have occurred, thereby testing and validating or invalidating their previous forecasts after the events have occurred (theory testing). Kelly's main emphasis is on the uniqueness of each person's construction of the world and the construct systems each will evolve and continue to evolve in order to import meanings of their experiences. (Pope and Gilbert, 1983, p. 197)

Kelly's analogy was man the scientist and scientist the man, both engaged in a process of observation, interpretation, prediction and control. According to Kelly, each person erects for herself or himself a representational model of the world which enables the individual to chart a course of behaviour in relation to it (Pope & Keen, 1981, p. 26).

Kelly establishes a social element into his personal construct theory. While Kelly's stress is mainly on the personal nature of meaning and raising the person to the central focus of inquiry, he addresses the relationship of one individual's personal constructs with that on another when he states, "to the extent that one person employs a construction of experience which is similar to that employed by another, his processes are psychologically similar to those of the other person" and "to the extent that one person construes the construction process of another he may play a role in his social process involving the other person" (Kelly, 1970, p. 20).

When one looks at how Kelly perceives an individual interacting the future, he termed the phrase, *Constructive alternativism.* This concept suggests that people understand themselves, their surroundings, and, and anticipate future eventualities by constructing tentative models against personal criteria (Pope and Gilbert, 1983, p. 197). He claimed that " the open question for man is not whether reality exists or not but what he can make of it" (Kelly, 1969, p. 25).

Having concluded a review of the concept of change as it affects individual teachers, how belief systems impinge on action, and the concept of personal construct theory, I cannot stress too strongly the need for my research into how personal belief systems formed around previous experiences affect teachers' responses to implementing mandated change.

CHAPTER III

RESEARCH DESIGN

Introduction

Research methodology is crucial to the successful collection of information on individual belief systems as they relate to mandated change. Rist (1979) points out "the decision on the style of research one chooses to employ should be a matter of informed judgement, not orthodoxy"; as different problems require different types of investigations and research problems determine the methods used and the kinds of data obtained. Pajares (1992) in his article *Teachers' beliefs and educational research: Cleaning up a messy construct* indicates the problem of studying beliefs when he states, "Beliefs cannot be directly observed or measured but must be inferred from what people say, intend, and do" (p. 314). Nespor (1987) utilized the Kelly Repertory Grid as a research instrument to measure beliefs of teachers in the acquisition of professional knowledge.

I decided to use a **case study** to secure data for this study. Guba and Lincoln (1981, pp. 371-373) describe the characteristics of the case study approach as the following:

1. a case study provides "thick description"(see Geertz, 1973);
2. a case study is holistic, presenting a picture;
3. a case study is focused;
4. a case study illuminates meanings; and
5. a case study builds on "tacit knowledge and gives a sense of the actual substance of the events."

These characteristics make the case study a research method that bases its interpretation of the participants' points of view. Guba (1981) provides three reasons why the case study approach is suitable to examine social phenomena: (A) there are multiple realities, existing mainly in the minds of people; (B) it is impossible to maintain investigator neutrality when working with people; and (C) human behaviour is rarely context free. Stake and Easley (1978) state that:

> The case study is a study of a bounded system, emphasizing the unity and wholeness of that system, but confining attention to those aspects that are relevant to the research problem at the time. (p. 31)

Gall, Borg and Gall (1996) recommend the use of case studies for in-depth study of instances of a phenomenon in its natural context and from the perspective of the participants involved in the phenomenon (p. 545). Gall, Borg and Gall state that, in case studies, the researcher is attempting to depict a phenomenon and conceptualize it thus creating a thick description. The recreated situation is accompanied by the meanings and intentions inherent in the situation.

While a single case study would have yielded valuable information on how personal, historical belief systems impinge on mandated change experienced by the teacher in the present, I decided that **multiple cases** would allow comparisons among cases.

Participant Selection

A pilot and four elementary teachers were selected to participate in the research. These classroom teachers had teaching positions in Grades 3, 4, 5 and 6. Each was selected because of their assignment to implement the *Alberta Program of Studies for K - 9 mathematics: Western Canadian Protocol for Collaboration in Basic Education*. As well, three of the five teachers were in their second year of implementing the *Alberta Elementary Science*

Program of Studies and one teacher was in her second year of implementation of a new Catholic Christian Program of Studies: *In the Spirit we belong*. The fifth participant also carried the role of curriculum leader in his school helping other teachers implement new programs.

In selecting participants for this research study, the most important consideration was not what program of studies was being implemented, but how each individual approached the task. More specifically, I wanted to discover, through several interviews and discussions, how each participant's belief system, formed over his or her lifetime, affected his or her responses to implementing mandated change.

Personal Construct Psychology

Studying the beliefs of teachers required me to seek a framework for comprehending this issue. Hence, I selected a constructivist approach to the research and Kelly's (1955) Personal Construct Theory as the specific framework to identify those beliefs.

Bruner (1986) conceptualizes Goodman's (1984, 1978, 1976) central thesis of constructivism when he states, "contrary to common sense there is no unique 'real world' that preexists and is independent of human mental activity and human symbolic language; that what we call the world is a product of some mind whose symbolic procedures construct the world" (Bruner, 1986, p. 95). Constructivism as a philosophical theory construes reality in the mind of the individual as he or she interacts with his or her environment and the people with whom he or she interacts. "We do not operate on some sort of aboriginal reality independent of our minds or the minds of those who precede or accompany us" (Bruner, 1986, p. 96).

From the constructivist point of view, knowledge and our belief systems are human constructions. Kelly (1955) suggests that:

> Man creates his own ways of seeing the world in which he lives; the world does not create them for him. He builds, constructs and tries them on for size. His constructs are sometimes organized into systems, groups of constructs which embody subordinate and superordinate relationships. The same events can often be viewed in the light of two or more systems. (p. 12)

According to Kelly's Theory of Personal Constructs constructs are not carved in stone and unalterable. Individuals are not prisoners of their own constructed past but are free to modify or create new constructs based on new knowledge. Kelly termed his philosophical position as *Constructive alternativism,* pointing out that, "we assume that all of our present interpretations of the universe are subject to revision or replacement" (p. 15). Kelly states "that man can enslave himself with his own ideas and then win his freedom again by reconstruing his life" (p. 21). This concept is vital to comprehending how beliefs that are formed over the lifetime of an individual can impact not only the knowledge acquisition of an individual but also how they respond when called upon to enter into a situation of change.

Kelly's views on constructive alternativism represent the strongest reason for my selection of Personal Construct Theory as a way of comprehending how a person's belief system impinges his or her decision making process. As such, the theory's fundamental postulate states, "a person's processes are psychologically channelised by the ways in which he anticipates events" (Kelly, 1955, p. 46). The key word to consider is "anticipates." This concept allows us to view the world through previously held psychological constructs. Through these previously held constructs, we seek to predict events and experiences. As such, our decisions about how to react to a mandated change will be viewed through previous personal constructs.

Kelly's Repertory Grid

When I selected the Repertory Grid, first developed by Kelly (1955) as a research instrument to examine individuals' personal constructs, I visualized it as a key to opening up conversations with teachers about their personal historically held beliefs about teaching and change.

Munby (1982) wrote the following about Kelly's theory.

> Fundamental to the theory is the assumption that people process events according to a finite number of dichotomous personal (that is, idiosyncratic) constructs which, while individually serving to construct a limited range of experience, are organized to provide a person's unique construction of the world. (p. 217)

Hence the elicitation of "elements" for a Repertory Grid would, according to Munby, enable a researcher to identify with the participant his or her finite number of dichotomous personal constructs. With that in mind, I asked each of the participants to identify a set of elements, or more specifically, a set of teachers from their past who had influenced them (See Appendix A). I selected teachers who had taught them as a means to determine the criteria they would use to identify effective or ineffective teachers in their own educational experiences. For example, the participants were asked to write down who they considered was their "most effective primary teacher," "their least effective primary teacher" and so on, throughout their school experience. The names of these "elements" were then placed on small index cards. Using a triadic method of comparison, the participant was shown three cards at a time and was asked to identify how two of the individuals were alike and the other different. These discussions led to an identification of bipolar constructs. The elicitation of the constructs went on until the participant was unable to come up with any new constructs for comparison of the elements. A grid (See Appendix B) with "elements" and "constructs" as axes was completed during a conversation between the researcher and each participant to record the associations. This was completed by asking the participant to rate each construct on a one to five Likert Scale for each of the elements. The aim was to examine the relationships which the participant created between the elements and constructs.

Utilizing this format seemed to offer some standardization of procedures but, at the same time, allowed each participant to develop their own personal set of constructs. As Munby points out, "this basic procedure has few rules, and has been modified in many ways. Sometimes the constructs are not elicited but provided. In other cases the grid becomes a rating grid" (Munby, 1982, p. 217). I decided to standardize the elements among the participants and permit the constructs to be elicited from the individuals.

I utilized the *"Rep Grid"* computer program (1993) to focus on the constructs that each person held most strongly. The program, utilizing mathematical calculations, ordered the constructs and elements into groupings that were similar or nearly equal in their ratings. The groupings of elements and constructs became the topics used in the interviews with the participants for further discussion about what they believed was effective teaching.

A second Repertory Grid was created with the participants following the above format to examine each participant's beliefs about "change." Initially, the element elicitation was a creation of the researcher and the pilot teacher. Once again, the participants were asked to identify either teachers or individuals who handled change situations well or poorly. This was done to create polarities. It was my intent to allow the participant to identify elements that met their criteria for change or not. However, all the participants did not wish to alter the format for the element elicitation but chose to utilize the initial form created by the researcher and the pilot teacher (See Appendix C).

As was the case with the initial Repertory Grid, each participant compared the attributes of each of the elements and established bipolar constructs. Once again, each was asked to rate, on the one to five Likert Scale, how each element compared to the bipolar constructs with "1" being most positive and "5" being most negative. Each participant was also asked to rate themselves against each of the constructs. The Rep Grid computer program was utilized to order and create groups of both the elements and constructs. These rated concepts became the focal point for the discussions in the interviews between each participant and myself.

The Interview Process

I wanted the voices of the teachers to come through and be fully represented. This research was really their accounts of events in their lives as framed by the constructs of beliefs about effective teaching and change on the *Rep Grid*. I wanted the meetings with each participant to be interviews that would be informal and conversational so as to put them more at ease.

Patton (1980) best illustrates the importance of the interview process. Its purpose

> ... is to find out what is in and on someone else's mind.
> ... it is NOT to put things in someone's mind (for example, the interviewer's preconceived categories for organizing the world) but rather to access the perspective of the person being interviewed. We interview people to find out from them those things we cannot directly observe. ...The purpose of interviewing, then, is to allow us to enter into the other person's perspective. The assumption is that that perspective is meaningful, knowable, and able to be made explicit. (p.

196)

According to Dexter (1970) the forms of interview vary from highly structured formats to open-ended, unstructured ones that employ neither fixed questions nor a pre-determined order for asking questions. Dexter (1970, p. 5) defines this type of interviewing as "elite and specialized," where the participant's definition is stressed; the participant is encouraged to structure his or her account of the situation; and the participant is permitted to introduce his or her notions of what is regarded as relevant, instead of relying on the researcher's notion of relevance. According to Dexter (1970) in "elite and specialized" interviews the interviewer takes the position that the participant's view of the situation may be respected. The researcher provides certain broad, general questions and records the responses for later analysis.

Kvale (1984) expands on Dexter's criteria for the interview situation. According to Kvale a qualitative interview is:

> ....centred on the interviewee's life-world; seeks to understand the meaning of phenomena in his (or her) life-world; it is qualitative, descriptive, and specific; it is presuppositionless; it is focused on certain themes; it is open for ambiguities, and changes; it depends upon the sensitivity of the interviewer; it takes place in an interpersonal interaction, and it may be a positive experience. (p. 174)

While the four interviews with the participants followed much of the criteria espoused by Dexter and Kvale, I adhered to Patton's (1980) conceptualization of interview when he states:

> The interviewer remains free to build a conversation within a particular subject area, to word questions spontaneously and to establish a comfortable style but with the focus on a particular subject that has been predetermined. (p. 200)

One further individual, Carson (1984), has influenced my perception of how the interview could be utilized so that the participants' voices came through. Once again, he speaks to the openness of the process when he says,

> conversation is related to questioning in the sense that participants in conversation are directed by a sense of openness, by something presently indeterminate which is worthwhile talking about. The topic, and the world to which the topic belongs, are held in common by the conversants but the question arrives during the course of the conversation... (p. 63)

In summary, what I sought through the interview process was a collection of data that would enable me to comprehend the participants' views about their personal histories, their beliefs about effective teaching and how mandated change affects their decisions. However, I did not use the word "interview" in my discussions with the participants, as I was concerned about the interpretation they would give to the meaning of the exercise. I used the word conversations with the participants to put them more at ease and make the process less formal. However, for the purposes of reporting the data in this thesis I refer to the process as interviews.

Format of the Interviews

Four interviews were completed with each participant. A format was designed for each interview. Since many of the participants were not well known to the researcher, I felt that an initial recorded interview was needed to establish a personal oral history which would become the backdrop for other discussions. The initial interview permitted me to become more familiar with the participant through the sharing of life experiences. I was extremely interested in their stories and I was able to ask questions which probed more deeply into the recalled situations.

My format of questioning was to lead each participant through a story of his or her childhood, school years, adult life and career. By discussing his or her experiences at various times in his or her life, I hoped to lay the groundwork for the interviews about beliefs about effective teaching and change.

After the initial interview was completed, the participant was taken through the Repertory Grid to establish their beliefs about effective teaching. Between the first interview and the second, the analysis of the Repertory Grid was completed by the researcher.

The results of the analysis became the focal point for the second interview. Each participant was asked to discuss characteristics of the elements he or she identified as effective teachers. In the interview each was asked to discuss how the effective teachers he or she identified taught him or her. The participant was also asked to discuss if or how his or her effective teachers have influenced his or her own beliefs about effective teaching.

The constructs of effective teaching were also discussed in this interview. The participant was asked to talk about what each meant. he or she was also asked to discuss the impact these constructs had during his or her childhood, education and how the constructs influence his or her teaching in the classroom. The interview also focused on how those beliefs about effective teaching impinge on his or her implementation of new programs of study.

Following the second interview the participants were asked to create a Repertory Grid as their analysis of how they perceive change. I utilized the time between the second and third interview to input the data from the grid sheet into the *Rep Grid* computer program to create a report which showed the participant's groups of belief constructs about change.

Utilizing a similar format, in our third interview, we discussed individuals who were identified as examples of change and the impact they had on the participant. Following this, the groups of constructs about change were discussed to establish what each construct meant to the participant. I examined with him or her how those beliefs about change influence his or her practice in the classroom. The constructs were further discussed in the roles they play when the participant is introducing new programs of study in his or her classroom. Finally, each of the beliefs about change was discussed with the participant to determine the personal experiences he or she had throughout his or her life.

The fourth interview with each participant centred on the current new courses of study mandated by Alberta Education and his or her School Board. The initial part of the interview centred around how the teacher perceived the program to be different from what was taught previously. Furthermore, philosophy, aims, objectives, goals and strategies of the new program were examined and discussed. The constructs of beliefs about effective teaching and beliefs about change became the focal point for the discussions about how they implement these programs.

The final phase of the research took the form of a focus group involving all of the participants. The data collection for this research project was divided into two time periods. The first set of data was collected from the Repertory Grid elicitation of elements and constructs for effective teaching and change and the subsequent interviews. The second set of data was collected after the aforementioned data was analyzed and the participant profiles were put into written form. I wanted the data from the focus group to reflect upon the themes I identified from the profiles and address any issues not clearly identified in the Repertory Grid analysis or in the interviews. Chapter V presents the identified themes and the areas where data was needed to clarify issues I identified from the participant profiles.

Pilot Study

To ensure that my research methods would produce the data I sought, a pilot study was undertaken. interviews were conducted according to the above stated format, as well as the Repertory Grid analysis of the pilot teacher's beliefs about effective teaching and change. During the pilot study, questioning techniques were refined so as to ensure that appropriate data would be produced to address the question, "do teachers belief systems formed around previous experiences affect their responses to implementing mandated change?" As well, questioning techniques had to produce data that could be analysed for the origins of the beliefs and whether patterns would emerge that showed a direct influence on their teaching methodology in a mandated change initiative. Hence, the pilot study gave me an opportunity to refine the questioning process and produce data that would address the research issue.

For the Repertory Grid analysis of beliefs about teaching and change, I gained my first understanding of its operation by completing the grid myself. From that process I gained an appreciation of how difficult it is. First of all, memory is the greatest obstacle that one must overcome. I found it difficult to remember characteristics of many of the teachers who taught me between thirty and forty years ago. From my first initiation to the Grid, it became quite apparent that for it to be valid as a useful tool, participants need some time to reflect on their school and university experiences. This decision led me to give the participant the elicitation form (See Appendix A) on one day and ask him or her to complete the form in time for the next interview date. The period of time to reflect on the elicitation ranged from one to three weeks for all of the participants.

Pilot Profile

Following the format that I established for the participants in the study, I selected Helene to assist me in the pilot study. From the oral history that was shared in the first interview I learned that Helene is an experienced classroom teacher, employed by a large Alberta school board and currently teaching all subjects to a Grade 6 class in a middle class urban school. Her teaching experience spans twenty years with most of it spent in this urban school district.

While Helene's present choice is an urban setting, her early life as a child was growing up on a farm. For her, "school was always something you went to during the day" (Int.1, L. 100)[1] . The memory of the primary years seems a bit blurred as she was put into an accelerated program. Helene refers to it as being "pushed ahead" and this, in turn, produced a feeling throughout her school and university life of "being out of sync."

> In the community, I felt like our family was a little different. And then I was always pushed ahead, pushed ahead, pushed and even when I went to university I went into the second year as opposed to the first year...So, I was always out of sync, you know, with peers and sort of physically, when I was growing up...that causes you to be introspective, too, and thinking, okay, why don't I feel like I belong? Why do I feel different? (Int. 1, L. 1106 - 1121)

The feeling of being "out of sync" is raised at other times in her interviews and that seems to stand out as having an impact on her beliefs about how children should be treated inclusively.

Another impact that seems to run throughout Helene's life is the effect of the deaths, when she was four, of her infant brother and grandfather. While Helene reported that it brought the family and the community together, she indicates that experience was her first indication that "The world wasn't always a safe place, that it did change and it wasn't completely stable" (Int. 1, L. 27-29).

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[1] The reader will note that all quoted interviews will be referenced by the interview number. i.e. (Int. 1) which refers to the first of four interviews held with each participant. The line number represents the numbering system assigned by the NUD*IST computer program during the analysis stage of the research. i.e. (L. 100)

Helene has two further recollections from her childhood that seem to arise throughout her lifetime. The first is the importance of reading in her life. She reports the importance that reading played in her family while she was growing up. Helene remembers, as a little girl, being read to by both her parents. Reading moved from entertainment and gaining knowledge to the ability to make connections back to her own experiences. The second recollection which seems to be important is innovation and creativity. She attributes the place of these to the fact that they had no television when she was growing up and they had to "create something out of nothing" (Int. 1, L. 632-633). She seems to lament the lack of creativity in today's children when she says, "We're a dying breed" (Int. 1, L. 643).

Teaching seems to have always been a desire for Helene as she grew up. Power and control seem to stand out as important values that she gained from her own experience as a student. While playing school with her older sister and two younger brothers, Helene recollects from her memories, "I was a really bossy old bag, I think...and I would sometimes be the teacher, but sometimes be the principal..." (Int.1, L. 942-947).

Change, on the other hand, does not seem have a major impact in her youth. Helene does not indicate that any major changes took place in her life until after she completed high school. Her first major change seemed to come when she travelled to Virginia to attend a private college where she earned her Bachelor of Arts degree in education. She describes her first evening at college as follows.

The first evening we arrived was really traumatic because you sort of

> had these expectations, and then you're kind of hit with reality, plus you're tired and everything is new. That was difficult, that first night, but I had my sister with me, and that really helped to make that bridge. (Int. 1, L. 235-239)

Helene's sister was in her second year at this college and served as an emotional support to her. Being an individual who describes herself as an introvert, the emotional support of family and friends is held by Helene as a valued crutch for her in times of change. As she says, "there's something comforting about knowing there's someone there who knows you so well, that you can say whatever you want to that person, and they will kind of understand" (Int. 1, L. 268-270).

Returning to Alberta, Helene's search for a teaching position led her into a unique career experience. Since her American teacher training had not given her Alberta teacher certification, she turned to private education as her first foray into the teaching profession. Her mornings were spent teaching kindergarten in a large open area classroom in the basement of a church with one other class and no walls to separate them. In the afternoon she taught in a Montessori school, also at the kindergarten level. Helene recounts the freedom that she had to design her own curriculum. "Nobody really sat me down and said, thou shalt do this, this and this. It was up to me with the director to talk about the kinds of things that we wanted to do" (Int. 1, L. 381-384). "So, I worked, basically, on my own beliefs about what was important, and what had been done with me as a small child, and fairness, and those kinds of things. In the private kindergarten we didn't have a curriculum per se. I became the curriculum" (Int. 1, L. 369-373).

In her second year of teaching she moved into public education with a small rural school board in western Alberta. Once again she was hired to teach a kindergarten class but this also proved to be a unique situation. First of all , the Kindergarten program was just being implemented by the school board and secondly, it was a team teaching situation. Her memories of the situation seemed to be extremely positive as she states that even now she would love to team teach with another teacher. The positive attitude towards collaboration with another teacher is summed up in these comments. "I was working with a lady who had a fair bit of experience in kindergarten....and so she helped me as well, and we could talk about what I had done there (in the private school), and talk about what she thought we should do and incorporate that" (Int. 1, L. 423-427). Helene goes on to remark about the extensive amount of planning time they were given. Teaching only two hours in the morning and two hours in the afternoon with all of Friday off permitted much more communication and cooperative work between her colleague and herself. This became a memorable experience for Helene.

Helene raises an interesting issue in moving from the private to the public school system as it relates to how she performed her role as a teacher. She comments on the public versus the private in this way. "It was then in a school situation, whereas the other one had been in the basement of a church. So, I walk in, and I bring all my preconceived ideas and experiences of school with me" (Int. 1, L. 451-453).

Helene followed up that year in Kindergarten with three more years teaching in that school at the Grade 1 level. Since her accreditation was from an American college, Helene was forced to return to the local university for four months to obtain Alberta Teacher Certification. Following this, she was hired by her current school board. However, she did return to the university a year ago on a sabbatical to complete her Master of Education degree. Over her teaching career Helene reports she has taught readiness, resource, Grades 1, 2, 5 and 6 and has performed the role of special needs coordinator. Her comments about her varied experiences reflect a very key attitude she brings up time and again when she says, "So I find that for myself I can't stay too long with one particular thing" (Int. 1, L. 489-490).

This comment led me to examine her beliefs about change in her own life. When asked if she was a risk taker as a child, she responded that she was not a physical risk taker. However, her actions and choices throughout her life seem to indicate that risk taking, for Helene, can mean more than just physical risk. To develop this profile, I searched through the transcripts of our interviews. The following statement seems to summarize Helene's beliefs about change. "If I have control over it, if I have the power then I relish it, otherwise I can't stay doing the same thing over and over. It would be the kiss of death for me" (Int. 1, L. 507-509). The need for control over change is also evident in her comments about how she approaches her teaching assignments. "Every time I do something, I do it in a slightly different way. And so these people that can pull out a box with a theme, and set up their room, and have everything run off, and I think, oh, that would be so nice. And yet, I've never been able to do that" (Int. 2, L. 581-585). In another discussion about her attitude towards change, Helene states, "I will never teach the same thing the same way two years in a row, and part of that is that I have different children, but part of it is me because I think, oh, I could do this better. Or I could do this in a different way. And I think I'm a person who likes controlled change" (Int. 1, L. 494-499). What seems to be evident is, if Helene encounters mandated change, it will be on her terms. She will decide what is to be implemented and what is not. The power will lie in her hands and not in the hands of those who advocated the change.

When it comes to mandated change, I discovered a much more cautious change advocate in Helene. Losing control over change brought forward this statement from Helene. "If somebody mandates that I must do something in a particular way and especially if they don't tell me why; if you give me a reason why, and if you can back it up, and it sounds educationally sound I will go, hey, no problem. But if you just say 'thou shalt' " (Int. 1, L. 513-517). Thus, Helene presents herself as a teacher who will give serious consideration to what is being asked of her but she does reserve the right to modify it to meet her needs and those of the children. Helene goes on to say that when asked to implement a new curriculum, "I would modify it. And I think we all do because my understanding of that mandated change will be different from somebody else's understanding of that mandated change" (Int.1, L. 524-526). I decided to explore more deeply how and why she would modify any new mandated curricular change. Helene said,"I would modify it according to the students' needs...I also might modify it by bringing in some of the students' expertise, to get them to buy into it, so it's not just mine but it becomes theirs" (Int. 1, L. 560-566).

The final area of Helene's profile is her approach and beliefs about teachers and teaching. "...there are some people that have the innate ability to know, somehow, what children need, and what children respond to...So, I work, basically, on my own beliefs about what is important, and what has been done with me as a small child, and fairness, and those kinds of things" (Int. 1, L. 364-371). The importance of the needs of children and how they should be taught becomes very evident in many comments that Helene makes about her role as a teacher as in the following remark.

> But I want them to do the kinds of things that will open their worlds, that will help them become what I consider educated people; make good choices for themselves; not choices because I said so, but because they look and say, because it's best for me at this time. (Int. 2, L. 672-676)

In the last seven to eight years Helene has become a strong advocate of reflection both for herself and for her students. While she reports that she has always been quite reflective, a personal family crisis seems to have heightened the need to be more reflective not only in her personal life but also in her teaching. She reports that, each Friday, she and her students reflect back on the week to determine what was talked about and what was accomplished. They use this process to write a letter to inform their parents about what they did in each subject and what they learned (Int. 2, L. 1020-1027).

For her own reflections on the implementation of a new mandated curriculum Helene sums up how she comes to grip with change and reflection.

> I think it's a daily kind of a thing, when you're sitting down and looking at the program in its entirety. Then you say, what's the reason for them doing this? How is this going to make sense to me so that I can help it make sense for the kids? Then when you do a concept, or teach a skill, then you have to say, did it work? Did it not work? Why? Why not? And again, you go back looking at how that particular concept fits into the global perspective that they have, the reason or the purpose for the curriculum. So, that's before and during, and I would like to say that after the year you'd sit back and reflect on it, but let's be honest. You really, at the end of the year, close the book, and say whew! And probably then you would reflect as you were preparing for the following year again. (Int. 2, L. 975-989)

Repertory Grid Analysis of Helene's Beliefs about Teaching

Prior to our first recorded interview I discussed with Helene an element elicitation form similar to that used by Hopper (1996) when he studied student teachers' beliefs about effective teaching. For this pilot study, as well as for all of the participants in the research, I sought to make the elicitation of the elements and constructs a creation of each individual. Utilizing Kelly's (1955) approach to creating a Repertory Grid, Helene and I constructed a set of element elicitations that represented polar opposites. For example, I asked questions about teachers who were most effective and least effective that had taught Helene during her primary and secondary education. To give a wider comprehension of most effective and least effective teachers for all the participants in the study, these elements were expanded to look at a lifetime of teachers who had influenced their own academic lives. However, for Helene, only eight primary and secondary teachers were selected to represent the polar opposites for our list of elements for her repertory grid.

A triadic method was utilized to create the bipolar constructs. For example, three of the teachers that Helene had selected as being either most or least effective were compared randomly and their differences were discussed. From those discussions eight bipolar constructs were listed.

I met with Helene prior to our first interview to discuss her role in the pilot study and we discussed the criteria for the elements that could be used to look at effective teachers in her life. At the beginning of our first interview Helene presented me with the entire list of elements. She had also, using the triadic method, arrived at her list of bipolar constructs. During that meeting I asked Helene to rate, using a 1 to 5 Likert Scale, all of the elements against all of the bipolar constructs with 1 representing closest to Helene's ideal for most effective teaching and 5 being for least effective teaching. In preparation for our second interview I was able to take the information and enter it into the *Rep Grid* computer program which ordered it according to a mathematical formula, ranking both the elements and constructs according to the importance of each for Helene.

In the second interview with Helene the structured elements became useful in explaining her beliefs about effective teaching that came through in the list of bipolar constructs. While this was quite limited for Helene, it became much more of an integral part of the study with the four participants.

Helene identified the following eight bipolar constructs that she believes are vital to effective teaching.

Group 1:	
Predictable	Unpredictable
Calm & Soft Spoken	Screamer
Stable	Unstable
Group 2:	
Interested in me as an individual	Disinterested in me as an individual
Approachable	Cold
Group 3:	
Made Subject Matter Interesting	Boring
Interested in what they were doing	Appeared uninterested in what they were doing
Group 4:	
Fair to students	Unfair to students

While some of these constructs became the focal point for discussions in the second and third interviews, it was only after my work with Helene was completed that I realized the vital importance of looking at and fully discussing teachers' views on effective teaching in mandated change situations.

Helene's Beliefs about Effective Teaching

As I stated previously, while beliefs about effective teachers and effective teaching were not the prime focus for this study, in a very limited way I discussed with Helene her perceptions on the beliefs about effective teaching that were identified in her constructs on the Repertory Grid. Table 1 illustrates Helene's rating of herself against the bipolar constructs. I was interested, as well, in the origins of these beliefs in her personal and professional life.

In Helene's view effective teachers should be stable and predictable. "I think it's really important for kids to have some stability in their

TABLE 1

HELENE'S RATINGS OF HERSELF AS AN EFFECTIVE TEACHER

	1	2	3	4	5	
Predictable	*					Unpredictable
Calm & Soft Spoken	*					Screamer
Stable		*				Unstable
Interested in me as an individual		*				Uninterested in me
Approachable		*				Cold
Made subject matter interesting	*					Boring
Interested in what they were doing	*					Appeared uninterested
Fair to students	*					Unfair to students

* Refers to the rating assigned by Helene for each of the bipolar constructs.

environment, and I think they learn better if they're not always trying to second guess what will happen next" (Int. 2, L. 26-29). Helene states her first priority is to her children. Leaving the classroom for various extra professional tasks must be kept to a minimum so as to maintain a stable and predictable environment. As well, Helene insists on students experiencing a safe and risk free classroom when she says, "my classroom has to be an environment where they feel safe, and I think that's part of stability, too. Knowing they can make mistakes, and knowing that I'm not going to fly off the handle" (Int. 2, L. 64-67).

Clear expectations, according to Helene, add to that stable and predictable environment needed for effective teaching to take place.

> I guess one of the ways is by very clearly laying out the expectations for anything that we do, and the purpose. Why are doing this? What's the reason for doing this? And then, what do I expect you to do in this assignment? And then asking the kids what they've gained from it. So, drawing them into the process as well, there will be some responsibility on their part for learning. (Int. 2, L. 84-92)

When it comes to implementing a new curriculum in a mandated change situation, I asked Helene to discuss how stability and predictability would be affected.

> It's a change for me, but it's not a change so much for the children because they didn't really know what the old program of studies was. So it's my attitude towards something new... Now, part of my responsibility, though as a teacher is not to let that feeling of being overwhelmed then impact how I work with the children. (Int. 2, L. 97-109)

Seeking the origins of the belief that effective teachers must establish stable and predictable classroom environments, Helene referred back to her own upbringing as a child. She indicates that both of her parents were "pretty solid people" and these concepts were "modelled" for her but she does state that "I grew to value it on my own" (Int. 2, L. 161).

The second group of concepts that the Repertory Grid computer program revealed was Helene's strongly held views that effective teachers must be approachable, fair and interested in each individual child. While Helene states this is not apparent to individuals who first meet her, she believes that she must act in particular ways to encourage that interaction.

> Something I do to be approachable is to try and see what they're interested in, and then talk to individuals about their interests... And with children, I respond to them in such a way, it makes them realize that they can come back again. (Int. 2, L. 185-195)

Searching for the origins of these beliefs seems to lead back about ten years. While this belief has steadily grown over the years, I found it interesting that it was also about that time that Helene went through a personal life crisis. She states that feeling secure within herself permits more openness to others.

> When you're feeling secure within yourself, you are able to give up some control, so I think, 10 years ago, I had to be in control of where they sat all the time. And I had to be in control of what was going to happen every day, and everything had to be measured out. And I've become much more secure that it's not going to get out of control, that I've been much more open. (Int. 2, L. 214-222)

The third concept Helene held as vital for effective teachers was an interest in the material they are teaching.

> I have to continually do things to interest me. And so, I find that I am attracted to people who are excited about what they are doing. It's really interesting because if you were excited about what you were doing in the classroom, then the kids get excited. (Int. 2, L. 326-330)

Helene metaphorically states that the students "feed off" the excitement and keen interest of the teacher for the subject matter and, in turn, the students tend to "feed off" each other. Knowing that not every topic that a teacher has to teach raises that same level of emotion, I discussed with Helene what she does in those situations. She referred to the new science program that she is implementing to illustrate how she addresses that issue.

> Evidence and investigation for grade 6 is fascinating, and that's what we started with. And I'm looking at sky signs, and I'm trying to think of how this is going to be interesting. So you tend to leave the things that are not as appealing to you until later on. (Int. 2, L. 397-401)

To conclude, Helene raises an important aspect of how she will cope with mandated change. The above comment reflects, once again, her desire to be in control of the mandated changes she experiences as a teacher.

Repertory Grid Analysis of Helene's Beliefs about Change

After the initial interview to discuss Helene's personal history, we developed an elicitation form for elements that would identify individuals who stood out in Helene's life as examples of those embracing or resisting change. For this element elicitation we decided to not only look at teachers who had taught Helene, but also, at other individuals she knew personally. Helene was given the week between our formal interviews to complete this element elicitation form. For Helene, the element elicitation instrument seemed to provide the greatest difficulty. Time seemed to be needed to sit and recall these individuals, the part they played in her life and how they met the criteria that the elicitation expected. In contrast, the construct elicitation which followed seemed to be an easy and enjoyable process.

Helene expanded her lists of elements for this elicitation to fourteen individuals who either embraced or strongly resisted change. For the second interview we used the elements to establish twelve bipolar constructs, once again utilizing Kelly's (1955) triadic method to compare the elements for commonalities and similarities. The following list of bipolar constructs illustrates Helene's beliefs about what constitutes a person who embraces or resists change.

Group 1:	
Open to change	Resistant
Open to the future	Lives in the past
Group 2:	
Innovative	Stuck in a rut
Creative	Sameness
Group 3:	
Risk taker	Safe
Goes out on a limb	Sticks to the tried and true
Group 4:	
Doers	Whiners
People Oriented	Self-centred
Group 5:	
Reflective	Traditional
Listens to reason	Opinionated
Group 6:	
Flexible	Rigid
Youthful thinking	Old thinking

For the third interview the above bipolar constructs became the focal point to determine the extent to which Helene personally holds these constructs in her own life and in her teaching career.

Helene's Beliefs about Mandated Change

When it came to analyzing Helene's beliefs about change, I quickly discovered that, while she identified concepts a person should hold to be able to effect mandated change, she did not necessarily embrace them for herself. I asked her at the beginning of our third interview to rate herself on the 1 - 5 Likert Scale against the Repertory Grid bipolar constructs on change she had developed. Table 2 indicates how she rated herself. In the area of openness to change she assigned herself a neutral 3. For innovation and creativity she identified closely with these concepts with a 1 and 2 respectively. Reflective was a 1. However, risk taking was given a 4. Open to the future, flexible, a doer, listens to reason and people oriented were embraced with 2's. In the category of youthful thinking she gave herself a 1.

TABLE 2

HELENE'S RATINGS OF HERSELF IN BELIEFS ABOUT CHANGE

	1	2	3	4	5	
Open to change			*			Resistant
Open to the future		*				Lives in the past
Innovative	*					Stuck in a rut
Creative		*				Sameness
Risk taker				*		Safe
Goes out on a limb			*			Sticks to the tried and true
Doers		*				Whiners
People oriented		*				Self-centred
Reflective	*					Traditional
Listens to reason		*				Opinionated
Flexible		*				Rigid
Youthful thinking	*					Old thinking

*Refers to Helene's rating of herself against the bipolar constructs about change

I realized research participants needed time to think about their own response to change after Helene made the comment, "I think it really depends on the day. It's been a positive day, but I think if you would have said at the beginning of the week, I would be very negative" (Int. 3, L. 9-19). This statement also raised a caution flag for me when it came to putting too much faith in the validity of the constructs developed in the Repertory Grid. It also reconfirmed my initial plans to use the Repertory Grid constructs as concepts from which to commence our interviews about effective teaching and beliefs about change.

In my discussions with Helene about her views on the constructs she holds, she believes that being "open to change" is a mind set. Often circumstances and experiences from the past affect decisions in the present. To elaborate on this idea, Helene discussed a situation in which she was engaged. Hallowe'en was coming up over the next week and she was confronted with a school tradition with which she did not agree and did not want to have any part of. Since Helene was new to the teaching staff, she was confronted by such traditions and was expected by fellow teachers and encouraged by students to "fall into line".

The issue was whether Helene's grade six class would create a haunted house for the rest of the school. She explains her reaction in this way. "For many reasons, not the idea of the haunted house and not the idea of the kids working together to do something for the whole school. But I mean, there's 300 kids here and who knows what beliefs are about Hallowe'en" (Int. 1, L. 440-444). Helene's concerns were for the children who might not view this as a positive experience and she did not want any children to feel awkward or "out of sync" as she did as a child. However, Helene sat back and tried to analyse why she was feeling the way she was.

When my reaction is negative, or when I feel my back go up, then I

> have to stop and think. What's happening here? What's really underneath that feeling? Is it a feeling that someone else is telling me what to do, and that irritates me? Or is there a valid reason? So, for me it's learning to take 5 minutes to stop and think about it, and then respond. And sometimes, also trying to put yourself into the position of the person, perhaps that is suggesting the change. Why are they asking us to change? What's the reason behind it? (Int. 2, L. 450-462)

In the end Helene sought to compromise with her students and the other teachers to effect a situation which she could accept. This was achieved by the other grade 6 class creating a display of creatures of the night which would, in turn, allow choice for all the children in the school. In Helene's view no child could be put in an uncomfortable position with this situation.

The above example illustrates Helene's view of her approach to mandated change as she draws on her own beliefs and experiences of the past to make her decisions in her classroom. She sums up this concept with the following statement, "when you're faced with anything in your classroom you go, why? Asking yourself those questions, and not being afraid of the hard questions" (Int. 2, L. 965-967).

The second set of beliefs about change Helene identified were creativity and being an innovator, concepts which she values in her own teaching. In my discussions with Helene she commented she has to do things differently. For example, she rarely uses materials she created in past years even though she will keep them for several years. Even in the first year of implementing the new reading program she states, "it was my first time going through it, and I stuck quite religiously to the book the public school board gave us. Although I did incorporate things like going to the library, doing 5 minute mysteries, or bringing encyclopedia... or having them develop their own crime scene" (Int. 3, L. 1466-1471). Even though Helene felt she was following the course of study "religiously", her comments reflected a reality of seeking ways to creatively enhance what she was told was the program.

Risk taking, as a concept of change, is an individual matter according to Helene. "Something that I might consider as risk others may not" (Int. 2, L. 650-651). However, Helene believes that how she organizes her classroom will establish a risk free environment for her children. Giving children responsibility for their actions through such things as not asking a child to put up his hand to go to the bathroom hopefully leads to responsible decisions being made. Behind the decision to set up flexible routines lies her philosophy about risk and learning for children.

> But I want them to do the kinds of things that will open worlds, that will help them become what I consider educated people. Make good choices for themselves; not choices because I said so, but because they look and say, because it's the best choice for me at this time. And so I might give the kids more freedom, in some senses, and that's risky. (Int. 2, L. 671-678)

Helene does indicate she has control over encouraging risk taking for her children. However, she is confined, herself, to outside forces which may extend or contract the amount of risk she feels she is capable of exercising. One example which Helene identifies as an outside force affecting this concept is the provincial achievement tests, which she has to administer to her grade six students. Tempering her desire to risk in these subjects is the government's action in publishing each school's test results. Adding to the public exposure of the school's test results is the reaction of the school administration which can add or take away the importance of this single evaluation tool. This can have a major influence on risk taking by Helene.

> And here your administrator really makes a difference, because if they put an awful lot of value on those achievement tests, then you're more tempted to teach to the test. Whereas, if you have an administrator who is more interested in teaching to learn, ... then that allows you some freedom...However, I think if you get kids to learn how to make good choices, and get them interested and excited in what they're

> doing, your achievement results will be okay. (Int. 2, L 686-695)

Being a risk taker is not something Helene remembers as she was growing up. Early in her career Helene makes the comment that achieving permanent certification gave her a feeling of more security. "As I grow older I become much more comfortable with who I am, which frees me up enormously" (Int. 2, L. 790-791). Add to this feeling of comfort within herself is the feeling of safety that is needed for risk taking. "It has to do with safety, like I'm feeling safe within myself, and if I'm feeling safe in what I'm doing, then I will take a risk" (Int. 3, L. 115-117).

Helene's association of individuals who can readily adapt to change with doers and being people oriented was identified with her fourth group of constructs. It would appear from her comments she has little patience with people who criticize, after the fact, rather than speaking up in meetings when changes are being discussed. " You have to be a doer. You can't sit back; you have to be energetic, and enthusiastic and try" (Int. 3, L. 1495-1497). According to Helene, the concept of being a doer is linked to the idea of collaboration. As well, collaboration, for her, is not a haphazard situation but must be carefully established. "You have to find somebody else who has similar teaching beliefs and philosophy to your own" (Int. 2, L. 863-864).

Being reflective, identified earlier, is a key belief in what makes teachers effective for Helene. As well, she identifies the same construct for an individual to be a change agent. She adds one qualifier to the belief for change. To adapt readily to change, she believes one must also listen to others. Helene identifies a situation of change she initiated herself which radically altered her approach to evaluation. "I became unhappy with some of the things that I saw happening; putting kids through meaningless paces.

That's when I kind of developed, one year, my own report cards and they went out every other month. They were quite detailed, and I had interviews every other month if parents wanted. Just as an attempt to get the kids involved in the process; just to make it real to them" (Int. 2, L. 1089-1096). This action speaks volumes about Helene's views about change. It speaks to her openness to try new approaches to perceived problems. The elements of innovation, creativity, risk taking, being a doer while listening to the needs of others epitomize all of her beliefs about change. Finally, without reflection, the problem would not be perceived and addressed in a unique way.

Implementing the New Western Canadian Protocol Mathematics

Implementation of any new curriculum begs the question of how this program is different from that which is already being taught. In my final interview with Helene, I attempted to determine how she perceived the new mathematics curriculum to be different from what she had taught in previous years. Helene had no exposure to the new curriculum prior to this year and was teaching it for the first time.

> The major difference, as I see it, is how it is taught. And basically the skills and the concepts are to be taught within problem solving situations, so that the kids aren't doing pages of rote multiplication, or rote division, but they're actually using that in some problem solving situation; and preferably a real life situation, so that children can see math all around them all the time, and that's a skill for daily living. (Int. 3, L. 138-145)

For Helene, this program does not run counter to her beliefs about effective teaching and, from her comments, it would appear the previous mathematics course of study ran counter to her beliefs. "It is supporting my belief system as opposed to the other one where you went through the textbook" (Int. 3, L. 236-238). To back up her belief the former program was not meeting the needs of children, she recounted an interaction she recently had with one of her grade six pupils. The student informed Helene of his part time job of recovering 250 lost golf balls and selling them for 50 cents each. However, when Helene asked him how much he earned, he was unable to calculate the answer either mentally or on paper. She concluded this situation was an example of the lack of transference that existed in the old program of studies.

Further evidence that indicates her preference for the new program was her reaction to my question about the use of textbooks with the new program. "I asked them not to provide me with a textbook. I said, if you're going to, please give me the money and we'll buy manipulatives" (Int. 3, L. 316-318). Further to the freedom of not being tied to the format of a textbook, she comments, "This way I can teach spirally if I want. So I can start a concept and then I can build on it, and then come back" (Int. 3, L. 561-567).

Helene believes new mandated curricula do not have to be taught in the order they are prescribed. "I organize them [the topics] according to what I want" (Int. 3, L. 575). From an earlier cited statement Helene prefers to leave less interesting topics to the end to teach and, if time doesn't permit, then it just isn't taught. Helene states that previously this was the case with measurement. "I left measurement to the end and I didn't get to it, partly because it was thermometers. Kids read thermometers a lot, and kilometres and distance. So, I thought that they might pick that up in some other areas" (Int. 3, L. 628-635).

Helene also raises another issue about modifying or leaving out topics in which she experienced difficulty in her own school years. During her Grade 12 year she remembers being "hung up" on probability and statistics. Now she is confronted with the very topic that posed so much difficulty for her. "The one that kind of struck me and is difficult for me to accept at the elementary level is the statistics and probability" (Int. 3, L. 398-400). When I asked Helene how she approaches teaching that concept, her comment is in keeping with previous beliefs about change. "I leave it to the end of the year" (Int. 3, L. 414).

However, there is a further issue, that I would like to explore, when it comes to topics that either present themselves negatively in the mind of the teacher or do not raise an excitement about teaching the topic. Experience, according to Helene, does have an influence on our actions, as teachers. "I remember doing long division in school, and my thinking about math was incredibly limited. And I think sometimes as we grow up and have more experiences, and use it more, then it makes sense" (Int. 3, L. 464-468).

Implementing the new Alberta Education Science Curriculum

Being asked to implement the new Alberta Science Curriculum is a major change for Helene. She has not taught science for the past seven years and is in the position of only having personal historical references to how science was taught. She recalls,

> We didn't have a lot of equipment for experiments, and you rarely did experiments because you didn't have the equipment, or you didn't have the time, or you didn't have the space sometimes to set them up. And so, my idea of science teaching, especially in division one, is dinosaurs; so we would take a theme as opposed to a scientific concept. (Int. 3, L. 703-709)

When I explored with Helene how she saw the new Alberta Science Curriculum being different from the previous program she responded, "I think the new program of studies has really moved away from that. And longer ago, I think there used to be very general airy fairy topics, and this is very specific and it's very prescriptive" (Int. 3, L. 713-718). Helene also states that the traditional classroom organization of students in rows just does not work with the expectations of this new program, since there is a need for more social interaction between the children. She also sees this program of studies as being similar to the new mathematics curriculum. "To teach it in a way that it needs to be taught, you have to have children be problem solvers. Then you've got to give them time to solve the problem, and equipment to solve the problem, and you've got to be very flexible" (Int. 3, L. 743-747).

I explored further how she thought the new program would affect her role as teacher and I received this response.

> You would have to be a facilitator. You would have to know what you wanted the kids to do, but then set out a problem for them , and then let them experiment. And it might take more than one day. It might take a week. It might take three weeks for them to experiment trying different things, until they begin to make sense. So I think you have to be a teacher who would be willing to stand back and let the kids experiment, and so you can't be so worried about, I have to cover this much science this year. I mean that's hard. (Int. 3, L. 770-781)

Key to this approach is the need for an altered timetable. Helene says, "You can't be rigidly structured in a timetable....You should have a whole afternoon to do science if you want. And you should have that for a period of weeks" (Int. 3, L. 846-864). However, if Helene sets up her science program in the fashion in which she believes, she establishes a risk for herself by having to set aside other subjects. "I can't do both science and social, that doesn't make sense. We need time to discuss; we need time to do; we need time to explore; we need time to reflect. And you can't do that in an an hour and a half" (Int. 3, L. 877-881).

Helene is advocating an approach to teaching science, which she believes is mandated in the new curriculum, but this could cause problems for her on the staff, as many timetables are established school-wide to create a smooth school operation. Reflecting her belief that risk taking is part of change, she asked the following question and then followed it up with her own response which epitomizes her own response to change. "Does the program mandate your beliefs, or do your beliefs mandate how you implement the program? I would say your beliefs mandate how you implement the program" (Int. 3, L. 818-825).

Overview of the Pilot Participant

An overview of the data, that Helene has supplied for this research project, indicates two themes can be identified throughout her life. These themes influence many of the decisions that Helene makes in both her daily life and her role as an elementary teacher. The first of these themes is, what she terms as, being 'out of sync.' The second theme is found throughout her comments but also is the first group of effective teaching constructs, "stability and predictability."

Being 'out of sync' arises very early in Helene's life when at the age of 4 she lost her brother and grandfather and she remarks that for the first time the world was not a safe place. She also experienced an 'out of sync' feeling again in her primary years at school when she was accelerated by one year. She indicates being chronologically a year younger than her peer group caused her distress throughout her youth and she wondered why she felt different. The 'out of sync' feeling increased again when she went into second year of university, instead of the first.

Being 'out of sync' was seen again eight or ten years ago when she experienced a personal life crisis. The theme seems to reoccur whenever she is asked to implement a new mandated curriculum. Being 'out of sync,' for Helene, is seen as something that must be controlled. With control, Helene finds she is able to reinstate stability and predictability in her life and in her teaching role.

Stability and predictability are Helene's first two choices for beliefs about effective teaching. When her second and third set of beliefs about effective teaching are considered they can only operate if the classroom environment is stable and predictable.

Being in a stable and predictable home environment were qualities which Helene remembers as important during her youth. The safeness of the home and the community draws Helene to value these constructs. As she stated previously, safeness is not a place but exists inside of herself. This may help us to understand why Helene believes if she can control a situation in which she finds herself, then the 'out of sync' feeling can be overcome, resulting in stability and predictability.

Since her personal life crisis seven or eight years ago Helene has adopted a reflective approach whenever she is confronted with change. She believes change is inevitable but reflection can temper its effect. When she meets change now, her first question is, why is it being mandated? She needs a full comprehension of the necessity for the change. If the presenters of the change can give her logical reasons and she can accept their rationale, she will adopt it.

Reflection has also become an important part of Helene's classroom in recent years. She asks her students to also participate in a reflective process each Friday to determine what they did and what they learned. Just as she uses the reflective process to aid in her own decision making, so also, she asks her children to participate in curriculum decisions for the class.

Helene wants her classroom to be a positive and secure learning environment for her children. By bringing together all of her beliefs about effective teaching, she tries to create a classroom that is warm and risk free. While she may be feeling overwhelmed by mandated change, she tries to make sure her students are unaware of her anxieties. To ensure stability and predictability, she says mandated curriculum change is really for the teacher and should not affect the children.

Helene is in the first year of the implementation of the new mathematics curriculum and she does not feel stable in this situation. She says she is overwhelmed by it. Helene has not taught the entire curriculum, as yet. Many questions have yet to be answered. While she sees many positive aspects to the course, such as the use of manipulatives, she feels very uncomfortable with some topics. She identifies the data collection and statistics topics as a concern for her. In her high school experience with this topic she relates her difficulties. Her initial response is to leave these topics until the end of the year. Since she has only been implementing the curriculum for three months, she has yet to decide how she will teach those topics. In the intervening time Helene will be reflecting on how to promote stability and predictability in her mathematics class during the remainder of the first implementation year,

Helene has decided to be meet the challenge of implementing the new mathematics curriculum. She will implement it to meet the needs of her class and not follow the prescription of the authors of the program. Rather than buying textbooks for her mathematics program, she asked the principal to spend the money on manipulatives. Rather than letting a textbook guide her program, she create her own resources. This will result in the order of the topics and the amount of time spent on each being controlled by Helene. If data analysis and statistics are left to the end of the year, that will be fine with her.

When we examine Helene's second year of implementation of the science curriculum, modifications to the program are being made. She is deciding the order of the topics to be taught, the length of time each receives and how they will be taught. Helene's comments reflect her comfort in teaching this course. The philosophy and prescribed methodology are compatible with her views and she is able to offer her children a stable and predictable environment in which to work.

In conclusion, Helene's beliefs in effective teaching and her ability to counteract the negative aspects of change, permit her to maintain a stable and predictable environment with minimal times of being 'out of sync.'

Thinking Ahead to Participant Research

Several issues arose in the pilot study which directly affected the research. Some have been discussed previously but I would like to review the direction and scope of the research into how teachers' belief systems have an impact on the decisions that are made when they are confronted with mandated change.

It became quite clear from my discussions with Helene that four taped interviews were crucial to the success of this research project. Each interview had a specific purpose and the questions posed to the participants had to reflect those needs. This, in turn, led to my decision to ask semi-structured questions which would lead the interviews in identified directions.

The second focus for the research was to have a minimum of one week between each recorded interview to give the participants the time needed to reflect on their choice of elements for the Repertory Grids on effective teaching and change.

The third issue was to ensure that not only would the focus of the research be on change but also on the participants' beliefs about effective teaching as it relates to implementing mandated change initiatives. It became quite apparent to me after the pilot study that beliefs about effective teaching are intertwined with their beliefs about change and one cannot be divorced from the other without removing part of the overall picture of that teacher's belief system.

The fourth issue was in the creation of each participant's Repertory Grids. After completing the pilot study, I believe a much more global view of the participant's life needed to be examined when elements are elicited. Rather than limiting the time frame to just their primary and secondary school experience, teachers and professors from their entire life should be considered for the effective teacher elicitation. For the establishment of the Repertory Grid on change, the elements should not be restricted to school experiences but should come from individuals who represent those characteristics of either being adaptive or reactionary to change. As well, it was decided from the experience with the pilot study that a better personal perspective is gained if they are asked to rate themselves on the 1 to 5 Likert Scale for both Repertory Grids.

In the interviews with Helene we discussed her beliefs about teaching and change generally as they related to implementing new programs. I decided, for each of the four participants, I would expand the discussion more to establish how the beliefs about effective teaching and change would be considered, specifically when new programs such as the Mathematics and Science Courses of Study are implemented in their classrooms.

In conclusion, I asked myself the question which commenced this research. **Do teachers' belief systems formed around previous experiences affect their responses to implementing mandated change?** From the analysis of Helene's beliefs about teaching and change, established through the use of the Repertory Grids and the interviews, I believe there is sufficient evidence to pursue this study further with the four selected participants.

CHAPTER IV

PROFILING THE PARTICIPANTS

Creating a Profile for the First Participant

Joanne presents herself as a Grade 5 teacher with a Catholic School Board in a large urban city in Alberta. She is the youngest of the participants with seven years experience in elementary schools. While her teaching career has been entirely in Alberta, her youth was spent in eastern Canada.

The importance of family stands out as being pivotal to everything that happened in her young life and continues to heavily influence many of her decisions today. Joanne, for the first eleven years of her life, lived in a middle class suburb of Toronto, where her father operated a meat shop and her mother had a nursing career. Positive memories of life in Toronto continue for Joanne as she reminisces, "there was always something going on whether it was playing hide-and-seek, or playing street hockey, or baseball, anything like that. So, I guess we were kind of a close knit neighbourhood" (Int. 1, L. 60-62). Making the transition to a small town near Halifax in Nova Scotia became a major change for Joanne but her thoughts do not reflect that it proved to be a crisis for her. In fact, quite the opposite seems to have been the case.

> I moved from Ontario to Nova Scotia, and that was hard because I was in Grade 7, so it was the age. But it didn't bother me too much. I mean it did initially, but I sort of got over it and made new friends quickly and got into the flow of things. So, I don't really consider it traumatic in my life. (Int. 3, L. 620-628)

Change seems to be something that was taken in stride and, as long as the family was together, anything could be endured. This can be best summed up by a comment that Joanne makes about her mother's philosophy of life. "You sort of accept things that happen because Mom always says, everything happens for a reason. So you can't prevent it. You just accept it and deal with it the best way you can" (Int. 3, L. 638-644).

Joanne's mother seems to be the major influence in her life. Part of this may be due to the death of her father when she was nineteen. However, her comments throughout the interviews indicate a very close relationship with her mother that have directly influenced all facets of her entire life. Excellence seems to be key to the values Joanne was taught as she was growing up. "It always seems to come back to a family environment where you're always expected to do your best, and if that best was 60%, well, then that was acceptable. But if your best was 90%, then it was expected that you'd put your best effort into it" (Int. 2, L. 575-579).

Her mother's influence and the importance of family were summed up in the following statement.

> My mother truly believed in, and emphasized, education. They were strict in a lot of ways, and believed, as well, in having a lot of good family fun. We always ate supper together. We discussed our day. We used to watch certain shows together....So, I guess we did a lot of things together as a family and I've carried that through where we eat supper together and the TV's not on. (Int. 1, L. 27-35)

Joanne reports she was quite a good student in school but at times, when problems arose, her mother was always there to help her through the difficult times. Patience and understanding seem to resonate through her comments any time she discussed the influences that her mother had on her.

> My Mom is very patient. I don't know how she ever survived. My sister had a lot of learning problems, and my father had a lot of learning problems. So she sat with us, and she helped us. School has always been very important, and so she always made it a priority, and she was a very patient woman. And when she couldn't do it herself, then she would hire a tutor, no matter what the cost....I've always felt

> like I could go to her, to be able to discuss anything, and she'll listen. (Int. 2, L. 177-186)

School, for Joanne, seems to have been, on the whole, a positive experience. "I liked most of the teachers that I had. I did well in school. I made honour marks" (Int. 1, L. 201-202). However, she does indicate that being an excellent academic student was only one facet of her experience. "I liked to study but I also liked to participate in the extra curricular activities, too, because that made it fun" (Int. 1, L. 228-230). Fond memories rose to the surface when we discussed some of her favourite teachers and subjects. Biology stands out as a particularly enjoyable class. Her mother, being a nurse, encouraged her to read her medical texts and this, in turn, added to her interest in the application portion of the biology class. "I remember when we dissected frogs. So there were some hands on activities. There was a lot of discussion. And I could always go to the teacher if I didn't understand something on a one-on-one to be able to find out more about it, too. So, he was always approachable" (Int. 1, L. 299-305). However, in contrast to Biology, Joanne remarked she hated Chemistry, another science subject. "It [Chemistry] was boring. He made it boring, where we had to sit there. I remember having to know all the periodic table, and know all the codes for iron, and oxygen, and all of those, and I just found it very boring and unmotivating, and I did poorly in it" (Int. 1, L. 333-336).

From her own experiences as a student comes her belief that teachers should make education meaningful through student involvement and discussion. "I always liked the hands on experiences, like in science, dissecting frogs. I like doing that. Or to be able to be an active participant, just seemed like you were part of the group, and learning was taking place through fun activities" Int. 2, L. 439-443).

As Joanne was growing up, she did not aspire to become an elementary school teacher. Joanne's desire was to become a nurse like her mother. However, her mother had other considerations for her daughter. "I was going to be a nurse because my Mom was a nurse. She said, 'No, don't be a nurse'. She said, 'I think you should be a teacher.' She thought I was good with kids. I was patient, understanding, and she thought that I would be able to learn with the kids, and teach them" (Int. 2, L. 1198-1206). Obviously her mother saw characteristics in her daughter that Joanne now recognizes in herself. "I always seemed to put myself into a learning situation where I would help others; or my friend was having problems, so I would study with them to teach them. I guess I always put myself in that situation, but I never really considered myself as being a teacher" (Int. 2, L. 1222-1226). For Joanne an integral link exists between learning and teaching. The experiences she relates throughout our conversations are of herself as learning and then being able to help others learn that knowledge, through various teaching methodologies. As she says, "I love to learn. I love to learn from anybody that's willing to teach me. .. But I love to teach, too. I like to teach even my own children and see the sparkle in their eyes, or they ask you, even though, for the hundredth time, why" (Int. 2, L. 1272-1278)?

Joanne carried those values into a Bachelor of Childhood Education program at a small university in Nova Scotia. Upon graduating, she accepted a position as a nanny for one year and then was, once again, encouraged by her mother to pursue a Bachelor of Education degree and gain teacher accreditation. Her mother, by herself, moved to Alberta after the death of her husband and she urged Joanne to follow her west to undertake her teaching degree at a large local university. Once again, her mother influenced her when she told Joanne to take a minor in computers. "She said, 'Computers are the thing. Do your minor in computers.' And I said, I don't know anything about computers. I don't want to do computers. She said, 'No, do computers; you won't go wrong.' So I listened to her" (Int. 2, L. 1190-1193).

Coming to Alberta brought with it not only the university experience but also what Joanne calls a 'turning point in her life.' Once again the impact of family had a very strong bearing on her life. This impact came from her younger brother who was also living in Alberta. She tells this pivotal story.

> I moved in with my brother and he taught me a lot of things about myself. He taught me how to relax, have fun, and be a little different. So, I had a lot of fun. That was a big changing point in my life. I used to be more reserved, and quiet, and never sure whether I should try anything. But after that, I didn't mind trying a situation, or being a little bolder, expressing my opinion, or being different. (Int. 1, L. 625-634)

Joanne recollects her Bachelor of Education program influenced her beliefs about teaching very little. She indicates very little of what she was taught in her education courses was utilized when she began teaching. However, her practicum experience seems to have been a very meaningful experience. Joanne says both of her cooperating teachers taught in ways reminiscent of the effective teachers she experienced. She relates,

> I had very good practicum experiences. I had excellent cooperating teachers. That's when I learned the most. They were enthusiastic. They were motivated. They were very good with kids. And they were very good with me, and willing to let me try this without interfering. (Int. 1, L. 707-716)
>
> Whenever I wanted to try anything, they'd say, 'Great! Good idea!' And they'd say, 'Try it out; see how it works.' So I always felt even if it bombed, that was okay. Then we'd look at it and we'd see what went wrong, and maybe how it could have gone a different way to make it more effective. (Int. 2, L. 535-540)

Her beliefs about how effective teachers should perform were reinforced by her two cooperating teachers.

With beliefs in the importance of education being fun, exciting and meaningful, but also appropriate to the abilities of children, Joanne entered her first teaching job in a grade 4 class in an inner city Catholic school.

> I guess I try to make sure that they (the students) understand that not everybody is good at everything, and that they have to be patient, and we still have to allow them to participate because they can still have fun" (Int. 1, L. 248-251). "If it's fun, you're going to remember it more. You can't make it all fun, but it's nice to relate it, and have fun with it. (Int. 4, L. 458-460)

Joanne's first teaching assignment illustrates the multiple challenges of a first year teacher in a teaching job. She also faced many problems inherent in the community in which she was teaching. "We dealt with a lot of social problems. So I guess you had to just think of a lot of techniques. But they weren't very effective because you dealt with so many other problems" (Int. 1, L. 797-800).

Her second year of teaching in the same school but at the Grade 1 level elicited more favourable memories. "It was good. I enjoyed teaching Grade 1's. It was a nice change. I learned a lot of things about dealing with the little kids, and how dependent they are on you, but I liked to do a lot of things with them" (Int. 1, L. 837-840). With the amalgamation of her school with another one, she spent an additional two years teaching in that setting. Recalling the overall experience in that school, she states, "It was a positive experience. It was very tough in my first few years of teaching. It was tough getting used to the kids, and dealing with a lot of their problems. You're a mother; you're [illegible] social worker; you are just about everything" (Int. 1, L. 937-941).

Relationships with other staff members in her first school also seemed to have had a positive influence. "I think it was the people that I worked with that probably taught me the most. And it was a very close knit family. It was very family oriented. I had so much support, and actually I loved working with them and I'm still friends with them" (Int. 1, L. 857-860). Unfortunately Joanne does not find the same supportive family atmosphere in her present school where she has taught for the past two years. She reports this is changing slowly and I get the feeling, that if Joanne can, she will work to create the same supportive family atmosphere in this school. In fact, she has already started to create that support system. Over the past year Joanne has taken on a voluntary role as computer mentor for her school. It would appear from this role Joanne will be able to learn with staff but also teach and mentor them in using computers in their classes. To illustrate Joanne's commitment to a collaborative approach to computer usage in her school she states:

> Some will come to me, and there's times when I'll say, this is what I've done. If you want me to show you how to use it, let me know and we'll get together. So I think it's a two way street. I think sometimes I initiate a little bit more by saying, oh, I just saw a really great program on such and such; you know that might be something you're interested in. (Int. 3, L. 1167-1175)

Joanne identified herself as an advocate for change through her efforts to expose new computer technology and software programs to her colleagues and she talks a bit about how she sees her role as not only a colleague, but also as a change agent in these words.

> I think that you have to be able to meet their needs as well. You're not going to get them enthusiastic if they don't feel comfortable with it. They have a certain comfort zone, so you have to kind of take it from there, and work with that, and then introduce them a little bit more. You can't throw a bomb shell at them because it just turns them off. (Int. 3, L. 1096-1101)

In conclusion, I see Joanne as having gained a great deal of confidence in her abilities as a teacher. She also presents herself as a teacher who is flexible and can embrace change . "You have to be able to accept change. If you don't accept change, you're going to fall behind because things are changing all the time. So you have to learn so that you can teach the kids" (Int. 2, L. 398-401).

Repertory Grid Analysis of Joanne's Beliefs about Teaching

Immediately following the first interview to establish Joanne's personal historical data, I asked her to create a set of elements consisting of teachers she considered effective or not effective teachers in her life. The list of elements were expanded from the pilot study to include teachers who taught Joanne, not only in elementary and secondary school but also at university. Joanne and I also added a further set of elements to explore teachers she would like to emulate or not emulate.

In the category of most and least effective teachers during her Grades 4 - 6 years at school posed a significant problem of identification for Joanne. Both most and least categories were left blank. However, she named two individuals who were least effective in the primary grades, two teachers who were most effective in junior high school and two teachers she would like to emulate. For the Repertory Grid on her beliefs about most effective and least effective teachers, Joanne identified fourteen elements.

Using Kelly's (1955) triadic method of comparing three of the elements in a random fashion to determine likenesses and differences, Joanne selected thirteen bipolar constructs. These constructs established personal teaching qualities which either made them most effective or least effective as teachers. As well, these bipolar constructs formed the basis for future interviews of Joanne's views about how she tries to be an effective teacher.

The same procedures were used, as with the pilot study, to gain an understanding of how Joanne would rate, on a 1 - 5 Likert Scale, the elements with the bipolar constructs. Immediately after my visit with Joanne, I entered the elements and bipolar constructs into the *Rep Grid* computer program to gain an understanding of which constructs Joanne held to be the most valued. The *Rep Grid* program uses a percentage scale to aid in the analysis. I examined only those constructs receiving 80% or higher, following Hopper's (1996) approach to the interpretation of Rep Grid data analysis. All thirteen constructs were identified as being 90% and higher.

The mathematical calculations placed the bipolar constructs in five loosely linked categories. However, for the purposes of this research, I acknowledge the groups but explore each construct separately. While this approach added more discussion to our interviews, some overlap did occur due to the similarity of some of the constructs.

The following bipolar constructs were identified by Joanne as being important for effective teaching to take place.

Group 1:	
Patient	Impatient
Warm	Cold
Approachable	Intimidating
Group 2:	
Motivating	Unmotivating
Effective	Ineffective
Make Things Meaningful	Doesn't Make Meaningful
Group 3:	
Sense of Humour	Dry
Student Participation	Teacher Led
Good Discipline	Poor Discipline
Group 4:	
Organized	Unorganized
Knowledgeable	Poor Knowledge Base
Group 5:	
Enthusiastic	Boring
Fresh	Burnt Out

While the computer program may differentiate between the various constructs, Joanne considered the thirteen constructs listed on the left hand side of the page as highly important for effective teaching to take place.

I asked Joanne to rate herself as an effective teacher on each bipolar construct. Table 3 indicates the ratings she assigned.

TABLE 3

JOANNE'S RATINGS OF HERSELF AS AN EFFECTIVE TEACHER

	1	2	3	4	5	
Patient		*				Impatient
Warm		*				Cold
Approachable		*				Intimidating
Motivating		*				Unmotivating
Effective		*				Ineffective
Make things meaningful		*				Doesn't make meaningful
Sense of humour		*				Dry
Student Participation	*					Teacher led
Good Discipline		*				Poor Discipline
Organized		*				Unorganized
Knowledgeable		*				Poor knowledge base
Enthusiastic		*				Boring
Fresh		*				Burnt out

* Refers to the rating assigned by Joanne with 1 being closest to the construct on the left.

Joanne's Beliefs about Effective Teaching

The second interview was devoted to exploring Joanne's beliefs about effective teaching and how the constructs she identified fit with her teaching style. We explored how these effective teaching constructs affect her decisions when she encounters mandated change. Finally, we examined the origins of these beliefs about effective teaching during her childhood and on into adult life.

The first group of effective teaching beliefs exhibit personal qualities of the importance Joanne holds for each child. "You have to listen to children. You have to be empathetic. You have to be able to go slow, understand their frustrations; know that even though you've tried everything possibly for them to learn, maybe they're not capable of learning it" (Int. 2, L. 63-67).

When Joanne talks about the construct of being warm, she again refers to the need for empathy and understanding for each child in her care. "You need to be warm, to be empathetic, to be caring, to be sensitive, and to always remember that you have to meet their needs as well as yours. And sometimes that means not exactly always being able to meet the curriculum" (Int. 2, L. 67-70). Joanne includes the belief that an effective teacher should display a caring and empathetic approach to children to the belief of a teacher being approachable. "You have to be able to be approachable so that they come to you and say, look, I just don't understand this. Okay, let's go through it again; so they don't feel threatened to be able to say, I don't want to go and tell her I don't understand it. You know, I feel stupid" (Int. 4, L. 672-676).

Joanne's high school biology teacher is the prime example of how an effective teacher showed patience, warmth and was approachable.

> He was always willing to spend time with you to make sure that you understood a concept. You could come to him at any time, and he would take that time because learning was important, and he wanted you to understand it. So, I always felt like I could go to him and ask him questions" (Int. 2, L. 210-215).

Joanne also identifies her mother as someone who was patient, warm and approachable whenever she needed help as a child. Now, as a teacher, Joanne approaches her role as a teacher in the same way as her mother encouraged her. She states, "They have to be able to feel confident to be able to carry out the work. Sometimes they'll say, I can't do this. I say, yes you can. And if they can't, then you have to reassure them that that's okay" (Int. 4, L. 1175-1179).

The second group of constructs Joanne identified for effective teaching were motivating, being effective and making things meaningful. Since these concepts are not as closely interconnected as the first group, I analyse each individually. Motivation, for Joanne, comes back to the idea learning should be fun and she recognizes her role in providing that stimulus for her children. "I think you have to be able to motivate them, to get them excited. If they're not excited about learning, then they don't want to learn, so you have to be able to provide them with fun activities, as much as possible and I think that makes them enthusiastic" (Int. 2, L. 242-246). In her own education Joanne refers back to her experiences of dissecting frogs in Biology class as a motivational experience for her. Of that experience she states, "To be an active participant just seemed like you were part of the group, and learning was taking place through fun activities" (Int. 2, L. 441-443). She also refers to her experience with her cooperating teachers during her practicum as examples. "I found that they [cooperating teachers] were real motivators themselves" (Int. 2, L. 544).

These comments lead us into what Joanne refers to as being "effective." Effective teachers, according to Joanne, should provide students with "fun activities, as much as possible and that makes them more enthusiastic" (Int. 2, L. 244-247).

For the third construct in the group, making things meaningful, Joanne firmly believes learning relates to previous experiences and the knowledge she gains during those experiences.

> You have to be able to relate it to their experiences. You have to be able to tie into the knowledge so that they have an understanding, and how it relates to real life. You can't sit there and start talking about new concepts, and it's way off yonder, and there's no connection there. I think even when we learn ourselves, we try to tie it to something that is familiar to us so that we remember it. (Int. 2, L. 303-309)

For children, learning can only become meaningful through the relating of new knowledge to preexisting knowledge. As well, Joanne believes children learn best in a hands on environment.

> I think a lot of children need concrete. They need to deal with the manipulative, and I think when they can see that, when they can visualize it, they can move to the abstract. I'm a hands on learner, and I guess I try to emphasize that, as well. I don't think you can make everything concrete but you can make it more concrete by relating it to their experiences, so they can visualize it. And then they can see beyond that. (Int. 4, L. 185-196)

In order to be an effective teacher, learning must tie in with real life so that, as Joanne puts it, learning can be "taken to another level" (Int. 4, L. 883).

The third group of constructs Joanne identifies for effective teaching, relates to the relationships existing between a teacher and her/his students. The first of these is a "sense of humour." The sense of humour can best be summed up by these words. "It means to be able to laugh. Laugh at yourself, laugh with the kids, laugh at them, and allow them to laugh back at you, and just kind of have fun" (Int. 2, L. 652-654).

The second construct in the group was the need for "student participation." Previously, we discussed Joanne's use of manipulatives as ways to increase student participation. It seems to go beyond that to sharing experiences, to various types of group work, to actively having students working on the blackboards, to performing their own experiments. The key to student participation seems to be, not only the various activities, but also the use of their communication skills. As Joanne states, "It's their learning that's taking place, so they have to participate in it. If you don't allow them to participate, you're not having a whole lot of learning" (Int. 1, L. 660-663). However, student participation can have a down side as well. As she says, "Sometimes it gets very chaotic...and you find that you're always tending to bring them down again" (Int. 2, L. 757-761). With experience Joanne seems to have accepted the down side of student participation with this comment. "You have to allow them to be risk takers, but that comes from you being comfortable with it to allow you to take that risk, and for them to take the risk as well" (Int. 4, L. 1601-1604).

I believe this statement best illustrates the relationship which Joanne has established in her classroom so that she is able to maintain her third construct of "good discipline." Her stress is on the positive rather than the negative aspects of discipline. "Kids need a certain amount of structure, and rules for learning to take place, but I don't think it has to be negative. Good discipline evolves from respect both ways, and I always tell the kids, if you want me to respect you, then you have to respect me" (Int. 2, L. 697-701). The key word for Joanne is "consistency" and, if you don't have that, the children will "walk all over you."

In high school Joanne had an English teacher who was a very strict disciplinarian and she states you just didn't go to her class without your homework completed. Joanne remarks most of the students didn't like her but she did and respected her for her strict discipline.

The fourth group of effective teaching constructs was being "organized" and "knowledgeable." According to Joanne, if you are not organized, then you are not prepared. This goes beyond lesson preparation and reaches into the learning process. An effective teacher must be organized to the point of knowing "what you're going to say, or how you're going to say it, or maybe how they're going to react, or, to be able to have an alternative plan. A lot of times that just comes with experience but I think that the more organized you are the better able you are to teach" (Int. 2, L. 1003-1008). Being organized allows her to feel more relaxed about her job. Being organized goes back to her childhood. "My Mom taught me to be organized...Sometimes there's never enough hours in the day to be organized as much as I would like" (Int. 2, L. 1088-1090).

The second construct in the group, knowledgeable, must also be in place for effective teaching. Researching what Joanne must teach is crucial to her own effectiveness as a teacher. Joanne believes learning builds on knowledge children learned previously. This is the base for future knowledge.

The final group of constructs that Joanne identifies for effective teaching are being "enthusiastic" and "fresh." Earlier I noted Joanne believes learning should be a fun process and the teacher must endeavour to maintain child-like qualities in order to relate to the children. Both of these concepts relate to Joanne's approach to teaching. Enthusiastic teachers, according to Joanne, have to be willing to "try new techniques, new ideas, anything to make learning more valuable, more meaningful, more fun" (Int. 2, L. 36-38).

In summary, Joanne believes that she must have a knowledge base for the subjects that she teaches. She believes she must be a caring, empathetic teacher who can motivate her student to learn through enjoyment and humour. Finally, she views herself as a facilitator, aiding children in their search for new knowledge.

Repertory Grid Analysis of Joanne's Beliefs about Change

At the end of the first interview I gave Joanne the elicitation form for beliefs about change. The form asked her to identify individuals she knew who embraced or resisted change. I asked her to preview the criteria and add or delete any she felt were not relevant to her (See Appendix C). Joanne used the week between the first interview and the second interview to think about the individuals she would place opposite each of the criteria.

After the second interview we reviewed her elicitation form for elements that would identify individuals who stood out in her life as examples of those embracing or resisting change. For this element elicitation we looked at teachers who taught Joanne, as well as individuals she knew including family, friends, acquaintances, and colleagues. For the elicitation she stated she did not wish to change any of the element criteria and preferred to use the same ones as were used in the pilot study. She also indicated this element elicitation seemed to be more difficult to complete than the one which identified effective and ineffective teachers.

Joanne was able to indicate thirteen individuals who embraced change or resisted change in their lives and/or their jobs. To gain an understanding of Joanne's acceptance or resistance to change, I asked her to put her name in the Rep Grid to make the fourteenth element.

Using the triadic method of comparison of the elements listed previously, Joanne established ten bipolar constructs to describe the elements. Finally I asked Joanne to use a 1 - 5 Likert Scale to rate all of the elements against the ten bipolar constructs. In the week that followed I entered the data in the *Rep Grid* computer program to determine which constructs for change were most important for Joanne.

The analysis indicated that all of the change constructs identified were given a rating of 90% or higher. The *Rep Grid* program also loosely arranged the bipolar constructs into four groups.

The following list of bipolar constructs illustrates Joanne's beliefs about what constitutes a person who embraces or resists change.

Group 1:	
Up to Date	Living in the Past
Knowledgeable	Not Knowledgeable
Progressive	Stagnant
Group 2:	
Motivated	Unmotivated
Flexible	Stressed

Accepting	Refusing
Group 3:	
Assertive	Timid
Risk Taker	Doesn't Take Risks
Enthusiastic	Unenthusiastic
Group 4:	
Untraditional	Traditional

For our third interview we discussed the individuals that Joanne had identified as being accepting or resisting change with the major focus of the discussion on the bipolar constructs.

Joanne's Beliefs about Mandated Change

Joanne believes she is an individual who embraces change in her life and in her work. A strong indication of this appears when she assigned a positive 2 to all of the bipolar constructs and 1 to the constructs of being enthusiastic and a risk taker (See Table 2). Therefore, our discussion in the third interview centred on the constructs that appear on the left side of the page above.

The first group of constructs Joanne indicated as being key to change is "Up to Date," "Knowledgeable" and "Progressive." From her comments it appears all relate to the acquisition of knowledge. As she states, "I think up to date and knowledgeable tie in with one another. You have to be able to attend in-services. You have to talk to other teachers, and know what is going on to be able to teach effectively (Int. 3, L. 161-164). And I think that it's a matter of listening to the new programs that are available, and they may not be right for you, but I think you have to keep up to date in order to implement the new programs, especially the ones that are mandatory" (Int. 3, L. 282-286). Joanne sees the education scene as constantly in a state of change and her main desire is to stay ahead of the change by taking proactive measures.

TABLE 4

JOANNE'S RATINGS OF HERSELF IN BELIEFS ABOUT CHANGE

	1	2	3	4	5	
Up to Date		*				Living in the Past
Knowledgeable		*				Not Knowledgeable
Progressive		*				Stagnant
Motivated		*				Unmotivated
Flexible		*				Stressed
Accepting		*				Refusing
Assertive		*				Timid
Risk Taker	*					Doesn't Take Risks
Enthusiastic	*					Unenthusiastic
Untraditional		*				Traditional

* Refers to Joanne's rating of herself against the bipolar constructs of change.

> You're always learning. A lot of times when I'm trying to solve the problems ahead of time, I'm still learning new ways to look at something, or a new way of dealing with it. There's lot's of times I get stumped. So, I think learning is always continuous. (Int. 4, L. 332-337)

Joanne shows her desire to be up to date, knowledgeable, and progressive in her work with computers. Not only did she minor in computers in university but she also became a leader in her present school as a mentor for staff. She indicates she was asked by the principal if she would consider filling this staff need. To fulfil her desire to be current, she attends computer mentoring workshops herself. She adds, "I also subscribe to a children's software educational magazine which keeps me up to date on some of the things that are happening to computers, as well as the programs that are out there. I also have a web site where I can go in and ask them about particular programs, and find out what their evaluation is of them" (Int. 3, L. 947-953).

When I explored why this set of constructs is so important to Joanne, she states she always had to learn as much as possible about a subject which interested her or which she didn't understand. "I remember in Grade 7 that I didn't understand a math concept. So I kept making the teacher go over it, and over it again, because I think I was driving her crazy. But I just didn't get it, and that bothers me" (Int. 3, L. 508-511). She also recalls her Biology class again where she wanted to go far beyond what the teacher taught. Being up to date, knowledgeable and progressive is credited to her mother whom she believes possesses all of these qualities and is herself open to change. "My Mom reads a lot, so she's always aware of what's going on, and the things that are changing, and she tries to inform me quite a bit of what's going on, as well. So, she's very accepting of change, and I guess because she is, she makes me more accepting too" (Int. 3, L. 9-13).

The second group of constructs that Joanne identifies as being needed for change is motivated, flexible and accepting. The concept of being motivated was also named in effective teaching. Joanne identifies the same need when it comes to mandated change initiatives. She says, "Being motivated means wanting to do something about a situation. I look at computers and the technology within the school. If I am motivated about it, I'm going to create excitement with the children, and create excitement within the other staff members" (Int. 3, L. 324-328). Since computer usage is mandated by her school board, she sees her role, as the computer mentor, as one of creating that motivation for change both with the children and with the staff. Joanne approaches the role of being the motivator in the following ways.

> You have to look at the different needs of the children, and to be able to make the learning motivating for them. I think computers are something that motivates them, and if you have really good programs, and you're enthusiastic about it, then it's more exciting for them because there's endless possibilities of what they can do. (Int. 3, L. 1020-

1025)

Teaching children how to use computers and various types of software seems to fit in with Joanne's approach to teaching mentioned earlier. She likes to act more as a facilitator in the learning process helping children discover their own learning. "If you work with it together, then it's more motivating for them... I think you have to work through with them" (Int. 4, L. 533-537).

With the construct of being flexible Joanne states, "There's just too many things that change from minute to day to week, and you have to be able to change. You have to be able to go with the flow, otherwise it takes you over" (Int. 3, L. 343-345). Flexibility has always been part of Joanne's life as she remembers that, while certain rules existed in her home as she was growing up, situations that arose meant flexibility was necessary.

Joanne sees flexibility as necessary when it comes to implementing new courses of study. She states that, while a new curriculum is meant to meet the needs of all children, she feels some inner city children need a modified curriculum.

> When you're dealing with inner city kids, and I know that it's hard to develop curriculum for both, but that's why you have to be flexible enough to say, no they're not getting it, let's move on. Or, you spend a lot more time and say, I'm not going to be able to hit the ratio and proportion, or stats, so you have to be flexible with it. (Int. 4, L. 797-803)

For Joanne, flexibility means modifying a mandated curriculum to meet the needs of her inner city students.

Being accepting ties in with being motivated to change and flexible in how that mandated change is implemented. Joanne describes this in the following way. "You have to be able to accept the new things that come out. And you have to be able to say, how can I use this? Maybe they can't, but they have to look at it and decide for themselves whether they need that knowledge or not" (Int. 4, L. 998-1002).

The third group of constructs needed for change is being assertive, risk taker and enthusiastic. Joanne sees that each of these constructs relate to how a teacher performs his or her role. Joanne also identified two of these constructs as necessary for effective teaching. She identifies Mrs. G., one of her own teachers, as an example of a person that she admires for exhibiting all of these qualities. "She was up on whatever was new. The new ways to to teach kids, the new ways to teach curriculum, and she wasn't afraid to try that. She wasn't afraid to stand up for herself, or what she believed, and to try to do whatever was best for the children" (Int. 3, L. 76-80). Joanne admits that being assertive does have risks when it comes to dealing with others but, without it, she does not see change taking place. However, she adds, "you have to know where to draw the line, as well, because you can step on a lot of toes" (Int. 3, L. 386-387). An illustration of Joanne's assertiveness is her influence on her present school in her role of making computers a priority. "I got the ball rolling, and I said, this is what we need to do, and I think this is what's important, so, we started with one PC, and now we have one in every single classroom plus about 5 or 6 in the computer lab. So you just have to sort of get the ball rolling" (Int. 3, L. 1057-1061).

The final group has just one identified construct for effecting change, untraditional. When I asked Joanne what she meant by a person being untraditional she stated, "It means not sticking to the old ways, and not wanting to change" (Int. 3, L. 445-446). Being untraditional seems to be grounded in Joanne's early childhood. "Oh, I played street hockey with all the boys. I climbed the fences. I hung around with a lot of the boys. I hung around with girl friends too. I just liked the rough side of things" (Int. 3, L. 736-739). However, she attributes her untraditional approach to life to her mother.

"She's a risk taker to a certain degree, as well, so I guess it depends on how you look at untraditional. I look at it in a positive manner. So, I don't think she's very traditional, either" (Int. 3, L. 758-761).

Joanne does not totally consider herself to be untraditional in her approach to life and teaching. She describes herself in this way.

> Now I'm a little of both. I like to take my risks, and there's times when I just like to lay back and play the traditional role sometimes, not very long, but I believe that it's important for the mom to be out working, not necessarily full time...I think family is very important as well, so, I guess that's where I'm traditional. I guess that's a belief that my mom has always held that family is very important. (Int. 3, L. 783-790)

In the second interview I asked Joanne how her beliefs about effective teaching impact her decisions in change situations. She discussed the groups of effective teaching beliefs and what happens in the first and subsequent implementation years. The first group, patient, warm and approachable, are not affected in mandated change.

However, the second group, motivator, effective and make things meaningful, did present Joanne with a major difficulty when it came to implementing the new Alberta science curriculum. A lack of knowledge and understanding of the new program elicited this response to the change.

> I wasn't motivated. I hated to do science. I love science and I didn't feel like I could be flexible because I didn't know where I was going. I didn't have a direction. So that sort of makes me more sympathetic of the children because if they don't have that knowledge base how can they expand, and know where they're going with the next concept? It's pretty hard to be enthusiastic about it. (Int. 4, L. 1546-1555)

For the third group good, discipline seemed to stand out in Joanne's mind as being influenced in a change situation. She states good discipline is very difficult to maintain.

> It's hard; you just don't have that same kind of structure and routine...it causes more chaos, it causes more chaos...so for learning to take place, we still have to have a certain amount of noise level, and

> although it's more than the usual because you're discussing it in a group, then you have to make sure that you have to be able to respect other people in other classrooms. (Int. 2, L. 794-804)

For the fourth group, mandated change presents some new challenges to Joanne who strives to be organized when faced with teaching new material. She attempts to organize herself to meet these new challenges when she says, "You have to be able to become familiar with the concepts that you are teaching. If you're not, you're going to confuse them because I've been there. And that's all part of being organized" (Int. 4, L. 604-607).

The new Alberta science curriculum presented Joanne with a major challenge in the first year of implementation. Joanne felt she did not have the knowledge base to teach the program. "If you want them to enquire about things, and you don't know why yourself, well then it's pretty hard to promote the enquiry process. They're going to ask you questions, and I'm not saying that you have to know everything, but you have to have a base of knowledge" (Int. 4, L. 1413-1418).

In contrast to the lack of knowledge in the first year of the implementation process, Joanne discusses the knowledge base she feels she has during the second year. "Oh, I feel more comfortable about it. I'm understanding what I'm doing. I'm able to answer the questions that they're asking, and I'm able to provide them with more questions because I know where those questions are going to lead. I can help them with the enquiry process" (Int. 4, L. 1465-1469).

The final group of constructs, enthusiastic and fresh, brought out the following comment, "That all sort of revolves around change to keep up with the new curriculum, the new technology, to be able to learn what's going on with new changes, easier ways to make kids learn" (Int. 2, L. 1155-1159).

Implementing New Curricula

Joanne tries to approach teaching a new curriculum as a positive experience. As she stated, change is inevitable and should be embraced. Her beliefs about effective teaching and change suggest the process should be a positive one. However, even for Joanne, change does not always come easily. The following statement sums up how Joanne deals with mandated change.

> You can't jump into something and expect everything to go smoothly because the road is always bumpy. I know when I'm implementing a new program, I'm just learning as well. So, the first year that I'm trying to implement, it is not always the most effective year. Each year you learn a little bit differently, and the kids learn a little bit differently, and you sort of meet those challenges and you learn together. (Int.2, L. 121-132)

Joanne displays a bit of that "bumpy road" when she discusses her reaction to some mandated change initiatives she experienced recently. First of all, she is disturbed by the incessant curricular change she has been subjected to recently. "I think it's irritating. I don't think that they have enough teacher input. If they had teacher input, I don't think that they'd be changing it every few years" (Int. 3, L. 292-294). Modifications to the curriculum should come from "within the teacher, or the classroom to make it adaptable to the children. I don't think that it needs to be system wide all the time. And it seems like it's coming out all the time; they're changing something" (Int. 3, L. 300-303).

New curricula, that often does not relate back to the base of knowledge children have, is a major concern. As she states, "I find that the kids are required to know more now than they ever did, and I kind of wonder if the concepts are too difficult for them" (Int. 2, L. 1059-1062). She identifies this as a problem with the New Western Canadian Protocol Mathematics which is in its first year of implementation and the Alberta Education Science

Curriculum, in its second year of implementation. In the Mathematics curriculum, Joanne uses double digit division at her grade level as one example of a topic being too difficult for most of her children. "When I try to teach the double digit division, the kids aren't ready to learn that and they just get very frustrated no matter what you try. Some of them just don't get it" (Int. 2, L. 1063-1068). Joanne believes that if a knowledge base is not in place, then no new learning can take place until the base is learned. With regard to double digit division at the grade five level, she believes the children are still trying to learn the abstract concept of single digit division. She explains her rationale in this way.

> I think that they're wanting children to have more and more knowledge, but yet, they're not maturing any quicker. So, I don't know why they expect them to have that high thinking level earlier in life when their experiences are probably less. Their real life experiences are probably less because most of them are in front of Nintendo, or TV. Well, they don't get those practical real life situations. (Int. 4, L. 144-151)

In the new science curriculum Joanne indicates the same problem exists when she teaches chemistry topics. With little understanding of the properties of various elements the children cannot take their learning to new levels. Joanne elaborates on this when she says,

> I think some concepts are very hard for the kids. There's a lot of abstract concepts that the kids have a really hard time, even with hands on. The chemistry unit; they have a hard time with. When they're trying to think about all the variables that they have to control when they're doing a science experiment, ...they can't seem to apply them. It's hard for them to go beyond and apply it to a different situation. (Int. 4, L. 890-893)

While Joanne indicates that new curricula presented her children with difficulties in relating back to previously learned material, she also believes the same is true for teachers. Joanne does not have good memories of her first year implementing the new Alberta Science curriculum. Her memories of that experience dredge up negative thoughts and her first word to describe it was "chaos." Her beliefs about how she should perform as an effective teacher were challenged as illustrated in the following statement.

> I think that although I did a lot of student participation, it wasn't organized and I wasn't knowledgeable. I wasn't as enthusiastic and I think it created more chaos. You don't have as much patience, and you're not motivated. So, I don't think you make things as meaningful to them because you're not as comfortable with the material. So, you certainly aren't as approachable because you don't think you can answer the questions. (Int. 4, L. 1485-1493)

Joanne took steps between her first year of implementing the science and the second to bring all of her beliefs about teaching and change back under her control. The main problem Joanne rectified was the need for more background knowledge to help her understand the topics. The documents that Alberta Education and her school board developed were insufficient in helping her understand the material and the methodology. In her search to fill not only her own need for knowledge but also to help her students develop their base of knowledge, she turned to the document the public school board developed for its teachers.

> They explain a lot of the concepts so I understand them, and I know what direction that they're coming from so I can teach the kids.. and they can understand it. And with the curriculum I am using, it explains all that. I know why I'm teaching it. (Int. 4, L. 1351-1360)

In the second year of implementation a confident Joanne reports her satisfaction with the curriculum. "This year I sort of leafed through it, and I thought, what's important for them to learn. Let's look at the basics, and I pulled information from here and there to make it all tie together, so that it was kind of in steps" (Int. 4, L. 1388-1391).

In Joanne's first year of the implementation process for mathematics the same anxiety did not appear. Except for the difficulty with the division, the only other problem that seems to arise is time spent on topics. Joanne believes it is vital for children to learn a base of material before they move on to a new topic, However, taking longer to teach some topics leaves little or no time for others. As she states, "I haven't really taught the probability, maybe indirectly when I talk to them about something. Actually, last year we didn't cover all of them because some of the concepts, the kids took longer for them to understand" (Int. 4, L. 62-65). Joanne does not worry about covering the entire curriculum. She is more interested in ensuring that children learn a base of knowledge before she moves on to teach new material. As she says,

> That's just something you have to accept that sometimes you can't make it through the whole curriculum. And to sit there and push them through it, that's just ridiculous. They will pick it up next year, and I think most of the time, most teachers know it's not practical to get through the whole thing, so you just work with it from there. (Int. 4, L. 658-665)

In summary, Joanne controls what she teaches within the curriculum and times her program according to the needs of the children in her class. External pressure seems to only reach her when she does not have the knowledge base she believes she needs to teach effectively.

An Overview of the First Participant

Two themes seem to run throughout Joanne's life. The first is the importance of family relationships and the second is the importance she places on background knowledge.

Family relationships for Joanne go beyond what we normally consider as blood related individuals. She extends family relationships to the school setting. This type of relationship places an importance on sharing not only time with each other but also knowledge. To understand how this relationship functions, I examine the dynamics that exist between Joanne and her mother.

First of all, I see the importance of family relationships when Joanne was a child. She remembers that, as a family, they always ate their meals, watched television and played games together. When Joanne wanted to learn new information her mother was always there to support her with her own knowledge, books and advice. Joanne remembers her mother sat down with her, whenever she needed help to solve a problem. To Joanne, her mother became the model for effective teaching with her kind, patient and approachable manner.

In school, Joanne also identifies teachers who displayed the same characteristics as her mother and indicates how they aided in her quest for knowledge. She remembers their patience, warmth, approachability and their ability to make learning meaningful through hands on experiences. Since she always sought to expand her knowledge base, teachers who encouraged her to go beyond the curriculum were held in high regard.

When she was in her practicum experience as a student teacher, Joanne describes the special relationships which her cooperating teachers had with their students. She says they were motivated, excited, enthusiastic and had a wonderful way with children. In each of these situations the individuals established warm and caring relationships, which she remembers taking place in the family setting.

When Joanne began to teach in an inner city school, she was unable to teach in the same caring manner as her mother and teacher mentors had. Social and behavioural problems in the class precluded her from performing as an effective teacher herself. Her opportunity to be an effective teacher came in her second year, teaching Grade 1. In this setting Joanne was able to be a warm, caring, approachable individual who could help her children learn and build on their knowledge base. She also comments on the special relationships she had with other staff members who supported her by sharing knowledge and friendship. Joanne remembers that school setting was like a family to her.

In her second school she also remembers her relationships as being like a family. The staff members shared their ideas and methodologies. Joanne believes that staffs should be like a family and support each other's needs. In her present school she does not feel staff relationships have reached the stage of being a family. However, Joanne is taking steps to bring such a relationship into being through her leadership in computers.

In teaching children, Joanne attempts to create the same type of relationship with her children that, as a child, she had with her mother. She does not see herself as a teacher but as a facilitator of learning. Hence, curriculum is seen as a guide for learning that can be modified to meet a child's needs. Knowledge, that a child is capable of learning, is far more important than teaching everything specified in the curriculum. Bringing all of her effective teaching beliefs to bear on her role, she believes, will aid the children in their acquisition of knowledge.

The only time she is unable to fulfil her beliefs in practice is in mandated change situations. As an example, Joanne identified the problems she had with implementing the new science program last year. Not understanding the outcome of many experiments put a major stress on her as a teacher facilitator. She described the situation as chaotic and she did not feel she was very effective in teaching science, even though she loved the hands on approach.

It is not until the second and third year of implementation Joanne felt comfortable with a new curriculum. When she understands the program she must teach, Joanne turns her attention to creating family relationships in her class.

The second theme that Joanne displays throughout her life is the importance of background knowledge. She believes that newly acquired knowledge is related to previous background knowledge.

In the Biology class in high school her interest in human anatomy caused her to go beyond what the teacher taught in the curriculum. Her mother supplied her with nursing books to fulfil Joanne's desire for more background knowledge. However, the opposite situation was evident in her Chemistry class. In this situation the knowledge which she was asked to learn had no connection with previous knowledge. With the lack of background knowledge she did not feel she was successful.

Since her positive experiences with learning came in situations where manipulatives were used, she believes the concrete is important so that connections can be made to background knowledge. As well, relating learning to real life situations seems to be important to Joanne.

Joanne sees her role as both a learner and a teacher. Just as she was able to build on her own background knowledge as a child, she believes she must assist her students to do so. In order to fulfil that role she must understand fully the material. Hence, she sees herself as always learning new knowledge to aid children in their learning.

Joanne does not see her role of conveying new knowledge being strictly for students. As computer mentor in her school she also aids her colleagues in their acquisition of how to use computers in their classrooms. In this voluntary change role, Joanne determines the needs of each teacher and attempts to help them comprehend how technology can be utilized to enhance their teaching methodology.

However, Joanne finds mandated change to be more difficult to implement herself. Many mandated change initiatives do not relate to her background knowledge. For example, in the first year of the implementation of the new science program she floundered due to a lack of background knowledge on the topics she was asked to teach. In the second year she was able to secure the resources, utilized in the public school division, to supply her needs for background knowledge.

A contrast exists in her comments about the first year versus the second year of the implementation process. The first year she described as chaotic but the second year she used many teaching superlatives to describe her experiences. This contrast illustrates the importance of background knowledge for Joanne to perform her role as an effective teacher.

In conclusion, with a feeling she is working in a setting that promotes an atmosphere of being in a family relationship and with the background knowledge to perform her role, Joanne believes she is an effective teacher.

Creating a Profile for the Second Participant

The second participant, Ruth, has the most teaching seniority with thirty years of experience. She is presently teaching in a Grade 3 classroom in a Catholic School in a large urban district in Alberta. She is nearing the end of her teaching career and has held varied teaching positions in secondary school, in support services for her Board and now at the elementary level.

Unlike any of the other participants, Ruth was not born in this country, but in Poland, to Ukrainian parents near the end of World War II. Her first memories are of living in a refugee camp in Germany after the war. She recounts that her playground was in the rubble of bombed buildings. "Oh, I loved it! We had so much fun. In Germany we played in the bombed out buildings, and Mom made us dresses out of parachutes" (Int. 1, L. 70-72). She remembers contracting tuberculosis and being sent to a sanitarium for a period of time before she and her family emigrated to Canada when she was four. Travelling by ship, she remembers how everyone was seasick except for her older sister and herself. When they reached Halifax, her first memory was of meeting her cousin and of being presented with a big basket of fruit which, for her, was a very special treat.

According to Ruth, an immigrant family had to be sponsored by someone in Canada. Her aunt, living near a large city in Alberta, fulfilled that requirement. However, when they reached the west, no accommodation could be obtained. The oil boom had just commenced and all available rental homes and apartments were inhabited, leaving Ruth and her family with only one option. They moved in with her aunt and lived in the attic of the farm house for the first year and then rented a mouse-infested home during their second year in Canada.

Hardship would be the best way to describe the early life of Ruth and her family. Her father was a lawyer and newspaper editor in the Ukraine but when he came to Canada, none of his education was recognized. As well, he was unable to speak the English language. Since food was needed he left his family to live and work in the city during the week doing manual labour for a surveyor.

Ruth started school when she was six in a small country school. She knew almost no English and remembers making chains and playing in the sandbox, but little else. The only word she remembers that she knew was "present" and she thought the teacher wanted to give her a gift each time she inquired if she was "present." In November of that year, they were finally able to buy their own home and move into the city, where she finished her Grade 1 year. She remembers, "By the end of the year I could speak with all the other children, and I was reading with everyone, and doing whatever they were doing" (Int. 1, L. 209-211).

Ruth had a love of learning, as she went through school, that is just as strong today. "Well, I really loved art. I loved literature. I loved history. But I liked Math, too. I found it really fun" (Int. 1, L. 440-443). With that love of learning also came a desire for perfection. "I remember in art, which I love, we had to do a repeating pattern, I was actually in a sense paralyzed because I was such a perfectionist. I wanted it beautiful" (Int. 1, L. 497-500).

Her athletic abilities were also well pronounced as she was growing up. While she endeavoured to do well in ball sports, her skill in running earned her record book recognition in the 100 yard dash in the region.

Her difficulties in school were more pronounced in the sciences. "Sciences were really difficult for me, like chemistry. My weakness is memorizing formulas, which is the way chemistry was taught quite a bit. I just can't remember random numbers" (Int. 1, L. 811-815).

Since her father was university educated and even tried to get a further university education in Canada, Ruth states that all of the children were expected to do well in school and go to university. Her mother did not have a university education due to "her generation and circumstances" as Ruth puts it. However, Ruth admires the special family orientation of her mother and the community mindedness of her father.

> But Mom was the real story teller. She'd tell us stories. She read to us. She did things with us. Dad was a story teller, too. He gave speeches that people would wish he would stop. He used to be very active in the Ukrainian community, and he'd be down for a two hour lecture; well he'd go on for 4 hours. So Dad was an incredible storyteller. He really had a fantastic mind with lots of wonderful connections. He told a lot

> of wonderful anecdotes. His history was incredible. (Int. 1, L. 351-361)
>
> Whereas Mom was the creator. She wrote children's plays. She wrote poetry. She was very creative with her cooking and she designed her own clothes. (Int. 1, L. 366-371)

Ruth realized, as she was growing up, she was somehow different from the others in the English speaking community in which she lived. She refers to it as a feeling of "otherness." What made Ruth's life different from other Ukrainian immigrant children was the location of their home. There were no Catholic schools in her area. She attended public schools with the general English speaking population. Unlike her classmates she attended a Ukrainian school on Saturday mornings where her culture and religion were taught. As well, her family did not participate in the Canadian Christmas celebrations but instead had an additional holiday in January to honour the Ukrainian Christmas. In her teenage years Ruth recounts her rebellion against her father when she tried to socialize with the English boys instead of the Ukrainian boys.

Her rebellion also spread into her classroom activities in Grade 10 where she says that she "fooled around" and "didn't learn anything." When she reached Grade 12, Ruth indicates she got a teacher who seemed to help her turn her perspective around. "We didn't know anything and I wasn't the only one. Somehow she got us through. She was fabulous. She just really understood her material and knew how to explain it. I guess she analyzed whatever she was trying to teach, and was able to present it in a way we could understand" (Int. 1, L. 843-852).

Ruth sums up her youth in the following way. "I think every child is resourceful. You kind of learn what's going on, and figure out your place, and what the rules are, and which ones you can break and which ones you can live with" (Int. 2, L. 652-655).

Following her high school education she enrolled in a Bachelor of Education program at a large university in Alberta with specialization at the secondary level. Ruth indicates that her choice of a career in teaching had little to do with a desire to teach children and more to do with a career that would give her a secure job and time for travel. "Well, here's a place where I can get a job. I love school, but it's not like I had a burning desire to teach someone. I liked teaching my siblings and I really liked telling them things. and bossing them around. So I thought I had a handle on that one" (Int. 1, L. 903-912).

However, the courses in teacher education did not satisfy Ruth's perception of what a university education should be. In fact she states she should have taken an arts degree and followed it up with teacher education. Boredom seems to have been the major problem for her. "I was just frustrated. I found a lot of my courses really dull." (Int. 1, L. 952-953). She indicated she found most of her professors did not meet her needs. Even her practicum was not practical in Ruth's view. First of all, she spent one week just sitting and observing rather than participating. As she says, "You have to be right in there mixing it up" (Int. 1, L. 1019-1020). When it came to the practice teaching sessions, Ruth remarks that it was an unrealistic teaching situation. "I didn't understand that the teacher was really controlling the class; it was not me. The kids all sat there and seemed to sort of be looking at me, but it was the teacher who kept control" (Int. 1, L. 1022-1025).

When Ruth graduated from her teacher education program, she states she was not prepared for what awaited her in her first teaching position. She had a very unrealistic perspective about children and teaching. "I really bought the idea that somehow you can make every child perfect. I had a very unrealistic view about life and about teaching" (Int. 1, L. 1006-1008).

Her first teaching position was English and Social Studies to Grade 10 students in a Catholic High School in the same urban centre where she grew up. She states she entered teaching in the mid 1960's when a great deal of freedom was given to teachers to develop their own curriculum. "That's when the whole philosophy of, let's develop our own courses, let's throw out all the textbooks had come in. So there I was teaching English 10 and there were no textbooks" (Int. 1, L. 1064-1066). Having no experience on which to draw, Ruth describes her first year of teaching and her anxiety of the situation in which she found herself. "It was horrible! Just awful! I had nothing... I didn't know what I was doing...I think I was pretty pathetic... I really wanted to hang out with the group. I didn't feel like a teacher. I just felt like one of the kids, and I didn't know what I was doing there. The kids were good; they didn't hassle me, but I was hopeless, hopeless" (Int. 1, L. 1072-1098).

The following year she moved into the junior high school level, teaching Language Arts, Health and Music at the Grade 7 and 8 level. Ruth indicates she felt more success in this assignment. At least she now had some textbooks as a resource but she was teaching the same material to five or six classes which proved to be quite boring for her. Her feeling of success was more directed towards her students at the Grade 7 level and less towards her Grade 8's. "I really liked the Grade 7's, I just couldn't stand the 8's. Same kids, and I just thought, I don't want to be here. I don't want to teach those 8's" (Int. 1, L. 1183-1185). Even though she enjoyed teaching the children in Grade 7, when they moved to Grade 8, Ruth found a great attitudinal change which she attributed to "the hormonal thing." After three years at the junior high Ruth decided to try a different level again in the hopes she would find satisfaction.

Teaching at the senior elementary level seems to have been a period of satisfying experiences. She describes it in this way.

> If you're going down in age, you always feel like you're going in slow motion because the children are thinking more slowly, and the tasks take longer, but it was good and I loved the staff. And that's when they were doing the experimental team teaching. What they did for team teaching was you took out a wall and you stuck two classes and two teachers in. Each one taught on their own; you just saw each other. It's like having a mirror image. So, in a sense, I ended up both times with fabulous teachers that I could really learn from them. (Int. 1, L. 1235-1247)

However, even though Ruth has fond memories of the support she received in that environment, she states, "it was artificial" as all the classes were streamed and true team teaching did not take place. She was responsible for teaching the below average and average group while the other teacher taught the average and above average children, exclusively.

After four years on this staff she left teaching for part of a year on a maternity leave but was unable to return to her former school. Instead, she took a teaching assignment in another elementary school at the Grade 3 level. Once again her memories are very positive and she describes the staff as being "top notch" and "incredibly supportive" during her five year stay at that school.

Ruth then moved on within her school system to take on the position of "home bound teacher" with the student services department. Initially the job was to coordinate and teach children from Grades 1 - 12 who were confined to their home or hospital for health reasons and were unable to attend school. In the initial years she found the position to be extremely challenging, teaching all subjects to both elementary and secondary students. Her particular challenge was with high school students to whom she had to teach science and mathematics as she had to rely on assistance from her husband's expertise.

The position changed for her when home education began to grow in Alberta. Some parents were opting to educate their children at home instead of sending them to school. Responsibility for children on a home education program was added to Ruth's responsibilities of teaching home bound children. Ruth became responsible for visiting the children in their homes to supervise and test them to ensure the educational standards were being met. The challenge for Ruth during those years was to become familiar and fully knowledgeable of every curriculum produced by Alberta Education for Grades 1 - 12. As well, she was expected to administer all of the testing instruments and if parents were not meeting their children's educational needs, Ruth had to enforce a return to a regular school for instruction. After eleven years in this position, while she still enjoyed it, the job became too much. Trying to do both the home bound and home education led to this comment. "Home education became so huge, and home bound was still there, so I was saying, this is too much! I can't do both jobs. I'm not even doing either adequately" (Int. 1, L. 1392-1394).

Life for Ruth took an interesting turn as she left the position at student services. She took a one year leave of absence from teaching to become a student at a theological college. This seems to be a major turning point in Ruth's life. Her desire for knowledge and spiritual development seems to have been met during that year. In her own words "I adored it. I had all those fabulous teachers! And just like that, that whole spiritual side was open...And then I was just totally open, and boom!" (Int. 3, L. 1541-1544). The intellectual stimulation elicits glowing comments about the program and her professors. "That whole intensive year where I was just saturated in theological thought, and grappled with some of the thinkers who have spent their whole lifetime grappling with these ideas and then being exposed to really fabulous teachers" (Int. 4, L. 1468-1472).

The following year Ruth accepted a primary level position in her present school. For twelve years she had been outside the classroom and the changes she found seemed to take her back. "The change was just incredible! The parents, for one thing, are incredibly intrusive. They're in your face. I'd never had parents like that... But parents are very aggressive. There are a lot of wonderful supportive parents but there are aggressive parents who will attack you, who will challenge you" (Int. 1, L.1441-1453). Ruth was also amazed at the changes she found with some of the children. "I had one child who was sexually abused, and she was disruptive, but I'd never had other children like that. I couldn't believe what the kids would say, I'll sue you! I'll kill you! I'd never had that before. I was shocked" (Int. 1, L. 1477-1480). Ruth has now been at this school for six years and has grown to enjoy her teaching again.

When Ruth commenced her career she commented about how unrealistic her beliefs were about teaching and children. Today, after thirty years, she simply sums up her expectations with these words. "What do I expect now? I want children to be the best they possibly can. And to be enthusiastic about life, and find their place in the world" (Int. 2, L. 935-938).

Repertory Grid Analysis of Ruth's Beliefs about Teaching

Prior to the first recorded interview I gave the element elicitation form to Ruth, so she could prepare for the session. Immediately following the first interview, I asked Ruth to list the teachers she considered to be effective and ineffective throughout her life. The list of elements identified encompassed the elementary, junior high, senior high, university and theological college.

She was also asked to identify any teacher who she would like to emulate and one she would not like to emulate. Ruth had no difficulty in completing the element elicitation grid. For the Repertory Grid on her beliefs about effective and ineffective teachers Ruth identified twelve elements.

Using the triadic method of comparing three of the elements in a random fashion to determine likenesses and differences, Ruth selected fourteen bipolar constructs. These constructs established personal teaching qualities which Ruth considers made them effective or ineffective as teachers. As well, these bipolar constructs formed the basis for the remaining interviews.

The same procedure was used, as with the previous participants, to gain an understanding of how Ruth would rate all of the bipolar constructs against all of the elements using a Likert Scale.

Between the time of the first and second interviews, I entered the information that Ruth gave me in the *Rep Grid* computer program. When I printed the Focus Report, I was given a mathematical table indicating the groupings of the constructs and the percentages assigned to show their importance to Ruth. Thirteen out of the fourteen constructs were held to be highly important. The final construct, "sense of humour", received a 75% rating which still indicates importance to Ruth. As well, the computer program identified seven groups of closely related constructs.

The following bipolar constructs were identified by Ruth as being important for effective teaching to take place.

Group 1:	
Organized	Unorganized
Group 2:	
Energetic	Lazy
Incredible Enthusiasm	Lacks Enthusiasm

Group 3:	
Loves Life	Fearful of Life
Loves Children	Cruel
Resourceful	Not Resourceful
Group 4:	
Makes Subject Come Alive	Boring Subject
Develops Higher Thinking	Does Not Challenge
Highly Knowledgeable	Not Knowledgeable
Understands World	Limited Understanding
Group 5:	
Incredibly Thorough	Not Thorough
High Expectations	Low Expectations
Group 6:	
Believes in Inclusiveness	Exclusive
Group 7:	
Sense of Humour	No Sense of Humour

I asked Ruth to rate herself against all of the bipolar constructs and she identified with all on the positive side of the constructs in ten of the fourteen. Table 5 indicates how Ruth rated herself as an effective teacher at the time of the first interview.

Ruth's Beliefs about Effective Teaching

The second interview with Ruth was devoted to exploring both the constructs she identified for effective teaching to take place and her own experiences throughout her career. We discussed the origins of these beliefs and how they affect her decisions in teaching and when she is confronted with mandated change.

Ruth identified being organized as the most important construct for effective teaching to take place. For her, organization is more of a mental process than a physical one. As she says,

> I believe it's not actually writing everything out to the nth degree. It's looking at the subject matter and really thinking through what is important, what is key, in your mind, but perhaps somewhat on paper, organizing what you want to teach the students, and then be flexible enough to throw it out if it's not working and try something else. (Int.

2, L. 162-167)

TABLE 5

RUTH'S RATINGS OF HERSELF AS AN EFFECTIVE TEACHER

	1	2	3	4	5	
Organized			*			Unorganized
Energetic			*			Lazy
Incredible Enthusiasm	*					Lacks Enthusiasm
Loves Life		*				Fearful of Life
Loves Children		*				Cruel
Resourceful	*					Not Resourceful
Makes Subject Come Alive		*				Boring Subject
Develops Higher Thinking	*					Does Not Challenge
Highly Knowledgeable	*					Not Knowledgeable
Understands World		*				Limited Understanding
Incredibly Thorough			*			Not Thorough
High Expectations	*					Low Expectations
Believes in Inclusiveness	*					Exclusive
Sense of Humour			*			No Sense of Humour

* Refers to Ruth's ratings of herself against the bipolar constructs for effective teaching.

Encompassing the struggle for organization is a more global view of education that constantly occupies everything Ruth does in her teaching. "Why are we going to school? What's the point of education? What is the meaning of life? Why are we here? Why do we struggle and strive?" (Int. 2, L. 407-409) After the mental struggle for meaning in order to create organization, Ruth's action is "Be prepared but then just let go, let life be, see what happens" (Int. 2, L. 1007-1008).

Ruth grew up in a family that strongly believed in organization which she described as giving her a sense of security. "There was a pattern to our lives... certain things happened on certain days. You knew what to expect, in a sense, that your parents would act in certain ways, that your family would be there for you" (Int. 2, L. 335-342). She goes on to state that in her life, she liked "certain patterns and certain certainties" which gave meaning and organization to her.

The second group of constructs that Ruth identified for effective teaching were, being energetic and having incredible enthusiasm. She sees both of these constructs as going hand in hand with each other and I will examine her beliefs in this manner. When I asked her to explain what she meant by these terms, she stated, "I believe it means just to be turned on to learning, to be excited about human potential, human power. Just seeing where have people been, sort of the Socratic approach. Where have we been? Where are we going? Why are we here? And sort of finding excitement in that" (Int. 2, L. 174-178).

Ruth's excitement and enthusiasm came through time and time again and I found myself becoming infected by her energy. When I explored the history of these two constructs, it became quite apparent they stretched back to her childhood. As she says, "I was an incredibly active child... we just kind of lived at a high edge... So, it was very exciting" (Int. 1, L. 431-437). When she was in school she relates her love of learning and her excitement about playing various sports and games with her friends.

She also tells of her enthusiasm about being in some of her effective teachers' classes. The common theme seemed to be that they all challenged her to expand the limits of her knowledge. As she says, "They were just trying to get us to fly with them. I just loved it" (Int. 2, L. 24). She recounts how her history teacher made history come alive for her. "She was making it so vivid, and so incredibly alive that again, I just loved it. I could see all the threads coming together, and just felt like you were there. You were living the history with her" (Int. 2, L. 60-64).

Just as her History teacher made learning come alive she says, "I try to excite them. But sometimes it doesn't translate... In my head I think things through differently than it translates in the classroom" (Int. 2, L. 491-494). Ruth also indicates she must modify her expectations to meet the needs of the class. "Last year's group was just great fun. They're wonderful kids. You can play with them. This year's group is different. There are a lot of children that, if you get them too enthusiastic they will lose it, so, you have to be very careful with them" (Int. 2, L. 504-512).

The third group Ruth identifies as necessary for effective teaching are loves life, loves children and be resourceful. Once again these are qualities which Ruth believes are essential for learning to take place. "Children need to feel an enthusiasm for being here, and so, if you love children, you want them to understand it in different ways. So you have to be incredibly resourceful...You're constantly thinking, constantly encouraging, and trying to keep all the threads together" (Int. 2, L. 187-193). She goes on to explain how these constructs are part of an effective teacher's methodology. "You're looking at the class; you're analyzing them in every subject that you're teaching, and you're trying to see what it is they need here. How can you encourage that child? How can you bring out the best in that child, so you have to be incredibly resourceful" (Int. 2, L. 199-203).

Ruth remembers the belief in these constructs began in her childhood. She indicates she always loved life and enjoyed almost all aspects of her youth. Her words display superlatives when she describes growing up as the second oldest of six children in a Ukrainian immigrant family. She believed her life was special since she was able to take part in activities from which her English friends were excluded. She saw the Saturday morning Ukrainian School as a blessing and a privilege, a place to learn the cultural dances and participate in the festivals. As well, her parents took her to concerts and plays which she says were not part of very many of her friends' experiences. Out of these experiences Ruth believed that life was to be enjoyed and that a love for others was paramount.

As well, growing up as refugees and then as immigrants seem to have brought out the resourcefulness of her parents and the children, as they made themselves self sufficient. Ruth describes her mother's resourcefulness when she set up a wholesale flower business. "She never drove, so she would take her violets on the bus. She'd travel everywhere, sell them to all these shops, or to the hospitals" (Int. 1, L. 561-563).

Ruth's account of her early career seems to display a sense of frustration when she tried to incorporate these constructs into her teaching. Initially, she found that, unlike her own childhood, many children were not self motivated to learn. As well, in her second teaching position at the Junior High, Grade 8 students were not held in very high regard. She comments on the confusion in the following statement. "I'm still somewhat confused how minds work. I'm trying to get a handle on it, after all these years" (Int. 2, L. 712-713).

The fourth group of effective teaching constructs are makes subject come alive, develops higher thinking, highly knowledgeable and understands the world. Ruth seems to believe these constructs relate to the preparation that must be completed prior to teaching. In her own schooling she remembers several teachers who made their subjects come alive, developed higher thinking skills, were highly knowledgeable and understood the world. She states,

> Each one thoroughly understood the subject matter but they were able to clarify and challenge my expectations. It wasn't just the knowledge of the subject matter. It was their depth of thinking. They would come in and show a subject in a different way. They were always surprising me. (Int. 2, L. 13-18)

Ruth adds, with depth of understanding which went beyond the base knowledge of the curriculum, each of these teachers made the subject come alive. She recounts her experiences in her high school English class where her teacher would quote from Shakespeare and totally intrigue her to learn more. She also remembers one of her teachers being a story teller who made the Greeks and Romans come alive for her. Of her history teacher Ruth remarks, "She was just able to tie in the whole broad range of history...She was able to flow through it, and she was tying in all these marvellous anecdotes that just truly excited me" (Int. 3, L. 29-33).

As a teacher Ruth endeavours to emulate those teachers but she does not find she does all the time. "Hopefully on most days you'll make the subject exciting... Sometimes you have to do some drudgery, and some slogging through" (Int. 4, L. 684-687).

However, Ruth does ensure she is highly knowledgeable about the curriculum she teaches and indicates she reads a great deal to develop that depth of understanding to bring in the anecdotes. She firmly believes each child must learn their own base of knowledge and it is her responsibility to ensure they are given the opportunity to go beyond the basics. She believes this is the key to developing high thinking.

> I feel we have to take children to a point, and they'll fly off on their own. But if I just say, fly off on your own; they don't have that background. They need both. So, I think in the past maybe we did too much background, now we maybe don't do enough background. We've kind of flipped to the other end and we need both ends. (Int. 2, L. 1070-1075)

Encompassed in the development of knowledge is Ruth's belief in a more global perspective of the world. She wants her children to comprehend their place in society and their responsibility to others. "I feel I want my children to see society, not just themselves... I want them to feel more responsible, more connected, to move beyond the self into the world. I really want them to feel more than just their own individuality, and their own needs" (Int. 4, L. 1151-1155).

The fifth group of constructs are incredibly thorough and high expectations. When I discussed with Ruth what she meant by being incredibly thorough, she used one of her elementary teachers as an example. "Mrs. S. was just incredibly thorough in grammar, and she was very solid. She really gave a grounding, so that when you left her classes, you were set to go on to high school." (Int. 2, L. 114-116). Once again, this statement reflects Ruth's belief that a base of knowledge, which she describes as a "grounding" in a particular subject, is essential for the education of each child and must be learned prior to moving on to higher levels. Even though Mrs. S. was "a driller", as Ruth describes her, she admires and respects the solid base of knowledge she learned under that teacher's tutelage.

High expectations are nothing new for Ruth. I recounted the story previously of Ruth's attempt to do a patterning exercise in art class and was unable, due to her desire for perfection. She also remembers, "I have a vivid memory of trying to paraphrase a paragraph. And I didn't know what to leave out" (Int. 1, L. 484-486). Being a perfectionist caused her a sense of paralysis in that situation and still causes anxiety when she sits down to write a note to someone.

When she began her teaching career, she believed her job was to make children perfect. Time and experience have mellowed that belief but her desire as a teacher is to set high standards for her children. "You have to let go, and kind of relax, but then keep pulling them, pulling them so they can get to a point where they think they can't go" (Int. 2, L. 252-254).

The sixth group contains the effective teaching construct of believes in inclusiveness. Being a child who grew up in a very secure home where she was loved and valued, she has developed a strong belief in equality. When I asked her of any unpleasant memories from her childhood in school, she remembered being extremely upset with a teacher who admonished another child in front of the whole class. In high school her belief in inclusiveness was reinforced when she said, "I knew bright girls had to pretend not to be" (Int. 1, L. 752). Inclusiveness is very important to Ruth as a teacher. "You don't want children to feel somehow that they are singled out in a sense, and yet not to push them aside"(Int. 2, L. 189-191).

The final effective teaching construct which Ruth values is having a sense of humour. Throughout my interviews with Ruth we both had many laughs. I think Ruth would agree a sense of humour is vital to serving as a teacher for thirty years. This may be the one construct that makes the role of teacher so satisfying. As Ruth says, "I love to laugh, and I love when children are humorous, or unintentionally humorous... It's really the flavour. It's the joy of life. To have a great laugh is just thrilling. I just love it" (Int. 2, L. 315-317 & L. 955-957).

Repertory Grid Analysis of Ruth's Beliefs about Change

Following the first interview I gave the list of criteria for the elements that had been utilized by the first two participants and asked Ruth to give some thought to individuals who she knew over her lifetime that could be identified with the criterion set. I also asked Ruth to add or delete any criteria which she felt would be more appropriate to her situation.

After we completed the second interview, Ruth and I discussed the element elicitation form for change. At the beginning of our discussion Ruth indicated she had difficulty completing the elicitation form (See Appendix C). She felt some criteria were difficult to fill. She declined to insert elements opposite three of the criteria (See Appendix C, No. 5, 6 & 12).

Utilizing the triadic method previously discussed, we compared the eleven identified elements. Ruth identified fourteen bipolar constructs. The next step in the process was to rate, using a 1 - 5 Likert Scale, the elements against the bipolar constructs. I asked Ruth to insert herself among the elements, so as to determine her own beliefs about change.

Upon completion of the exercise, between the second and third interview, I entered the data into the *Rep Grid* computer program. The Focus Report indicated all of the constructs favourable to change scored above 80%.

The computer program identified five groups of constructs that would be held by individuals who embrace change. The following list of bipolar constructs illustrate these groupings of constructs and their polar opposites.

Group 1:	
Well Read	Not Well Read
Seeker	Closed
Group 2:	
Adventurous	Conservative
Adaptable	Rigid
Positive Energy	Negative Energy
Group 3:	
Humble	Wants to Stand Out
Personal Sacrifice	No Personal Sacrifice
Group 4:	
Thoughtful Doer	Self Server
Sees the Big Picture	Doesn't See the Big Picture
Reflective	Shallow
Group 5:	
Celebrates Humanity	Controlling
Open and Certain	Defensive and Uncertain
Instigator	Follower
People Oriented	Not People Oriented.

Ruth identified herself as being quite adaptable to change by giving herself one or two on the Likert Scale on all except two constructs. The lower number on the Likert Scale signifies a closer adoption of the constructs on the left hand side of the page. Ruth gave herself a neutral score of three for adaptable and instigator (See Table 6). To explore her beliefs about change in more detail we utilized the third interview for this purpose.

TABLE 6

RUTH'S RATINGS OF HERSELF IN BELIEFS ABOUT CHANGE

	1	2	3	4	5	
Well Read	*					Not Well Read
Seeker	*					Closed
Adventurous		*				Conservative
Adaptable			*			Rigid
Positive Energy		*				Negative Energy
Humble		*				Wants to Stand Out
Personal Sacrifice	*					No Personal Sacrifice
Thoughtful Doer	*					Self Server
Sees the Big Picture	*					Doesn't See Big Picture
Reflective	*					Shallow
Celebrates Humanity		*				Controlling
Open and Certain		*				Defensive and Uncertain
Instigator			*			Follower
People Oriented		*				Not People Oriented

*Refers to Ruth's ratings of herself against the bipolar constructs of change.

Ruth's Beliefs About Mandated Change

Ruth approaches change in much the same way as she approaches her teaching, that is, by seeking to fully understand the total essence of the change.

> I try to make sense of it and try to somehow understand it. I like to mull it over, something that comes at me that's new... I'm not afraid to try it; I'll jump in there, but really to understand something new, it takes some time. I like to play with it in my mind, set it on the back burner and then eventually see what comes out of it. (Int. 3, L. 171-180)

Ruth's first group of constructs about change are well read and seeker.

For Ruth comprehension of the change and its implications for her and the children is vital before any implementation action is taken. Key to mandated change is "Seeking knowledge and perhaps, trying to understand the bigger picture" (Int. 3, L. 204-205). Included in the understanding of a new curriculum is the importance of reflection, discussions with colleagues and experimentation. "I think a person who's well read has to do a lot of thinking, ... and a lot of discussion with others, and then some experimentation, and then things will start to work out. And keep changing it as the need comes up" (Int. 3, L. 195-199). Ruth reminds us that change does not occur in a vacuum, as every teacher already has background knowledge on which to draw. "So you have an idea of how things might turn out. But with new factors you're never sure, which is fun. It's fun to try that, to see how it goes" (Int. 3, L. 231-234).

Ruth and her family are no strangers to change. Her parents taught her that seeking knowledge was key to survival as an immigrant in Canada. First, the English language had to be mastered and, if food was to be put on the table, education was the key. Her father, who had been educated in the Ukraine, started digging ditches for a living in Alberta, returned to university for an education, and finished his working career as a chemical analyst. Knowledge, for Ruth, has always been the key to successful teaching and to success when she is confronted with change.

The second group of constructs that Ruth identified as being necessary for change were adventurous, adaptable and having positive energy. Being adventurous for Ruth means "To realize life is so limitless that you want to see what's on the other side of the hill all the time. And you realize, at least I have, that I know so little, and that I'm in a different space all the time. Every year, every day is different and so, I guess being open in a sense" (Int. 3, L. 287-

292). The key for being adventurous in change is, "You're able to try something that you really don't know how it's going to turn out" (Int. 4, L. 865-866).

Risk is also part of being adventurous and adaptable to mandated change. She indicates she is not concerned when a new curriculum is being implemented and it does not turn out as it was planned. "I don't see it as a failure. I see it more as, that just didn't work, let's see why not: let's see what happened here, and is it the children? Did you try too much? There are many variables. It's not exactly failure in the sense that, even if your cake collapses there's still the cake there" (Int. 3, L. 246-250).

Included in the ready adaptability to change is what Ruth terms "positive energy." She describes it as an energy that flows between individuals which can either promote progress or, in the case of negative energy, impede change. Ruth describes how this concept plays out in her class during implementation of an exciting change initiative.

> There's an energy flowing for them. You see a kind of a stillness that comes upon a group. Maybe they're focused on something with a partner, or on their own, or in a whole group, and you realize their energy is flowing...Then there's this incredible, it's not a buzz, but it's like a quietness, which is like a buzz. It's very strange. Or there can be a kind of slightly noisy energy, but you can feel it. You can see it in the room. (Int. 3, L. 403-411)

When Ruth encounters new mandated curriculum all of the above constructs are interwoven into her approach and actions as she states:

> I try to figure out why is it implemented? There has to be some thought process behind it. If I can get my hands on some research I'll take a look. Or I'll just think, why did the committee, or whoever has decided on this course, where do they see the positive? Where is the energy coming from? How is it going to help the children in their learning? What do I know about what children learn? What is my experience? How do I learn? All these factors have to mix up in my mind and I'll try little nibbles. I like to try little things. Try it out. See what's happening, then kind of think about it for a bit. Try something

> else. And then gradually pull it in. See what's working and what isn't. And just say, I'm sorry, but this part just won't work, and this part is great, and this is sort of good and average. (Int. 3, L. 339-353)

The third group of constructs, humble and personal sacrifice, relate to how Ruth believes a person sees himself or herself in the world and his or her responsibility to others. She describes being humble as a feeling "You're part of humanity; you're part of human energy, or of the whole universe. Somehow you're part of it, but not to feel like you are the most important or the least important" (Int. 3, L. 434-437). Her role as teacher is to connect with the needs of her children to offer an educational program that not only creates a base of knowledge for each child but takes them to higher levels of knowledge and experiences.

Being a humble person seems to be part of Ruth's beliefs. She relates that, as a child, if she was in a race with another child who was unable to compete she says, "If I thought the person was suffering, I might hold back and let them move ahead" (Int. 3, L. 1157-1158). Being humble also seems to be a trait she links with the modesty learned from her husband's family. She states, "My husband's family are very modest people, really active in the community, too. They do a lot and never talk about it. They're always there to help each other" (Int. 3, L. 1209-1212).

Personal sacrifice has always been held up as a high example in Ruth's family. Her father sacrificed huge amounts of time to community needs. His efforts in the community to develop the Ukrainian bilingual program are held in admiration by Ruth. As well, Ruth identified two friends who were very heavily involved in community work on the local as well as the international level. As Ruth says, "It's just being open to love; being able to see beyond yourself" (Int. 3, L. 451-452).

The fourth group of constructs needed for change to take place are thoughtful doer, seeing the big picture and being reflective. All of these constructs relate to previous perceptions of comprehending the place of the new mandated curriculum in the bigger picture of what the needs are of each child, with decisions being made through a careful thoughtful process. When Ruth approaches a new curriculum she is being asked to implement, she is searching to

> See the big picture, not just the classroom, but how does this new curriculum fit into their life, into your life, into society, into the world? Is it going anywhere? Being reflective about what you're doing, but also thinking, does this make any importance to our Canadian society, our world society? (Int. 4, L. 970-975)

Ruth goes on to add, "You can't see the big picture unless you are thoughtful" (Int. 4, L. 1678-1679).

Attempting to understand her place in society is part of Ruth's beliefs. She says as a child she liked to sit back and watch others and she still gets enjoyment out of that even today. She gives credit to her mother for helping her to see the bigger picture of society.

The final group of constructs celebrates humanity, open and certain, instigator and people oriented seem to follow on the previous groups in their outward perspective towards others in society. As well, each construct has an inward looking perspective to the beliefs of the individual. Celebrating humanity seems to expand on the construct of being able to see the bigger picture. Once again, Ruth wants her children to see beyond themselves. As she say, "It's easy just to see the group that you're in; your own little community, your own friends, even your own school. It's very difficult to see the school system, or all the schools within the province, or within the country" (Int. 3, L. 679-683).

The construct of being open and certain relates to following the familiar path or being prepared to implement new programs. "It's tempting to stay on the old path and to reject things, especially as you get older, to say, oh, I don't even want to bother. But saying, let's try it, and let's see where it goes, and I guess the certain part is feeling all right" (Int. 3, L. 753-757).

Ruth prefers not to force her opinions on others. I believe her deep respect for others and their opinions substantiate why she gave herself a neutral 3 on this construct. "I don't want to push people in a direction they don't want. I sometimes hold back unless they ask me, and then I give what I have" (Int. 3, L. 1257-1263). As I asked Ruth to examine her role as an instigator over her lifetime, I believe she became much more of an instigator socially than in the educational arena. Ruth explained it in this way. "Certain things that were important to me. I guess I instigated. I've got that other side to my personality that I like to watch and even be withdrawn. So I have that brash, and then that kind of watching side" (Int. 3, L. 1442-1448).

Being people oriented seems to have been a personal characteristic of Ruth from the time she was a child. While she loved to learn, her real joy in life was being with her friends. "I just liked being with my classmates. I liked being there, just seeing people. I liked to observe people and just have fun with my friends" (Int. 2, L. 456-458). When it comes to implementing mandated change, Ruth still feels the importance of other people. "If I'm thinking of it and it's on my mind, I want to talk to someone and I'll run it past them and see what they think, and what can they give me at that point" (Int. 3, L. 365-368).

In the second interview I asked Ruth to discuss how her beliefs about effective teaching are affected in a mandated change. In being organized Ruth states, "You have to know where you're going. You have to know your material, but then you have to just let things evolve" (Int. 2, L. 988-990).

For the second group, energetic and incredible enthusiasm, Ruth still displays a somewhat open mind and maintains a positive and enthusiastic approach. "I find I let it kind of sit in my mind, and kind of play with it" (Int. 2, L. 1015-1016).

For the third group Ruth puts her children and the enjoyment of life as being her first consideration when she implements a new curriculum. As she says, "You never have all the answers and so I think if you love life and children you have to sort of try to see things from another angle" (Int. 2, L.1030-1032).

When we discussed the fourth group, makes subject come alive, develops higher thinking, highly knowledgeable and understands world, Ruth did not see any of these constructs any differently than she would in teaching any subject. She approaches new curriculum with that same determination, to not only understand the basics but to search for knowledge beyond the document in various resources. Knowledge is the key to making a subject come alive and Ruth's knowledge can open the door for children to go beyond the basics.

In conclusion, Ruth looks beyond a new curriculum to the purposes behind it and how it impacts on children and society itself. I believe her year of post graduate work at the theological college had an important effect on Ruth, not only as a teacher but also on her approach to change. Her voice continues to exude excitement when she describes that experience. "I had those fabulous teachers! And that whole spiritual side was open. I was just ready, flowing, oh my God! And then I was just totally open, and boom" (Int. 3, L. 1542-1544)!

Implementing New Curricula

Ruth is confronted this year with the task of implementing two mandated curricula. All of the schools in the province of Alberta are in their first implementation year for the Western Canadian Protocol Mathematics program and Ruth is in her second year of the implementation of the Christian education program which is mandated by the Roman Catholic Church and her school board.

When I discussed with Ruth her perceptions about the difference between the new mathematics curriculum and the former program, she initially did not feel there were great differences. While she acknowledged the greater emphasis in mathematics literacy, problem solving, geometry and probability in the new curriculum, the changes did not seem to overly concern her. Ruth seemed to be concerned with the more global problems of teaching mathematics. For example, as an elementary teacher, who teaches many subjects, she laments the lack of comprehension she has of mathematics.

> Many of us do not go into a deeper understanding of math. My husband will sit down and read a math textbook just for the sheer joy of it. But most of us work on a simpler level... But if we can understand that it's part of our life, but it's also abstract, we can move beyond. We always want to move children to higher levels of thinking. But most of us can't; our minds just aren't built in a sense that we can go up into that programming, and playing with math. (Int.4, L. 297-322)

This would seem to run counter to Ruth's beliefs about her ability to be an effective teacher in this area. However, in keeping with Ruth's approach to change, she takes a new concept she is introducing, and proceeds to "nibble" at it after careful researching and reading on the topic.

> You have to understand the small parts that make up the whole. So, if you're teaching a concept, and if you're able to break it down in your mind to the components, the steps that the child will have to probably

> follow, the average child, not the very bright, or the very low, then you can reach many children. (Int. 4, L. 784-789)

Ruth's premise is the importance of the child in the learning process. Modification of the curriculum to meet the needs of the children is a given scenario for any curriculum she is asked to implement. As she says, "You have to be able to scrap and you have to try something else. Then just keep part of it and you have to be able to see what's happening" (Int. 4, L. 878-880). Ruth goes on to state, "I think you have to see that you're not going to be able to do it all... Don't be terribly hard on yourself, but also see where the children are, and just feel good about it" (Int. 4. L. 925-930).

I asked Ruth about the pressure to teach the entire curriculum that the Alberta achievement testing program placed on her. Her response was dismissive.

> They move their standards up or down depending on how many children are achieving, supposedly, an excellent result. Last year I had students who scored 88% on a very tough exam who didn't get excellent... If you're setting standards and you're setting really tough exams, keep it at that point. (Int. 4, L. 429-443)

Credibility would seem to be the major problem that Ruth sees with the testing program. However, she is not opposed to achievement testing, providing the standards are not changed from year to year. In fact Ruth states provincial testing programs assist her in preparing her curriculum each year. Ruth sees the tests as an aid to her but of little value as a published report. She indicates on the mathematics examination, problem solving is a large component but she questions the validity of their results. While the end result of a problem solving exercise is a correct answer, Ruth believes the "playful thinking" of children as they move through the problem solving steps are untested and may be more important than the final correct answer.

In conclusion, Ruth seems to treat the new curriculum in the same way she would approach any curriculum she teaches. The only differences are a few modifications to the concepts she will teach the children.

As I mentioned at the beginning of this section, the second curriculum Ruth is implementing is the Christian education course of study. When asked for the differences between this program and the previous one, she indicated a major difference. While the former curriculum stressed the study of values education, the new program encompasses the teachings of Jesus and the work of the Holy Spirit in the lives of the children. Ruth explains the change in this way. "I think in our individualistic society, just the whole idea of community is not playing out the way this program is asking it to play out. There are many families that feel connected to community, but many do not feel connected. They only see their own needs, or maybe their family's needs" (Int. 4, L. 1083-1086). It would appear from Ruth's comments, about the need to see the bigger picture and her belief in the celebration of humanity, that this program meshes almost totally with Ruth's belief system.

Religious education is a very difficult program to teach as it draws on the spiritual beliefs and development of every teacher that teaches it. Ruth indicates her own difficulties throughout her career. "I went through that really doubting phase, and so I'm sure my religious instruction was very weak for a long time. When the children would question, I would question too in a huge way. I've gone through all of the phases, moved on because of the age I'm at" (Int. 4, L. 1315-1320). As well, her year in the theological college helped to clarify her thinking in this area and now she says, "I feel like I'm connected back to my childhood where I had a very strong faith" (Int. 4, L. 1498-1499).

When I discussed the contents of the new program with Ruth, she believes even though it is laid out in ten detailed units, modifications should be made to address the needs of her children. "You have to be realistic and you have to look where your children are in their own faith development" (Int. 4, L. 1118-1120). She goes on to indicate her Grade 3 children see morality in terms of absolutes. There are only right and wrong decisions and moral shadows do not exist. As she says, "They are grappling. It's a beginning stage, and so, at least if you can grapple with them, hopefully at the next development of their brain they'll move a little higher into those higher areas" (Int. 4, L. 1384-1386).

Ruth does not approach the teaching of Religious Education in any different fashion than she would any other subject. I believe the following statement of how she approaches this new curriculum best sums up her teaching strategies.

> You have to take the children where they're not, or affirm what they already know, through their own experience with their family. You have to say, this is my belief, and here's what we're learning. This is what our church society believes and this is where you are. And just kind of bring it out. (Int. 4, L. 1710-1717)

In the end Ruth believes this is a program which must be integrated with all of the subjects she teaches.

Overview of the Second Participant

Two themes stand out in importance in Ruth's life, the acquisition of knowledge and the development of relationships. Learning and gaining new knowledge, according to Ruth, is the key to her happiness. As a child, Ruth's parents modelled the importance of knowledge for her. Her father, trained as a lawyer in the Ukraine, adapted to a new life in Canada by seeking to learn English and get further university education to secure a career. As well, his leadership in starting the Ukrainian bilingual program in his community illustrated the importance of knowledge. Her mother's creative writing further emphasized that importance.

Cultural knowledge also became a strong part of Ruth's childhood and is still a major influence in her life today. She also indicates religious knowledge she was taught during her childhood has become an important part of her present spiritual development.

While Ruth valued the acquisition of knowledge as a child, she also states, during her junior high school experience, she had to hide that aspect of her life. She remembers girls were not supposed to show their intelligence in front of their peer group.

Ruth chose teaching as a career, not because she enjoyed working with children. She enjoyed learning herself in school and felt she could excite children to learn, just as her effective teachers had done for her. Her first year of teaching in a high school was a total shock. For the first time she discovered every child does not have an insatiable desire to learn new knowledge. This challenged her belief she could be an effective teacher. Changing grade levels became Ruth's way of finding the age of children she wanted to teach.

Her happiest time seems to have come when she moved into the elementary school setting. The acquisition of knowledge took on a new source. She discovered the importance of colleagues sharing ideas and methodologies. She also saw other teachers performing as effective teachers and, she says, in those first few years, she learned a great deal about teaching.

Knowledge was also gained when she had her own child. Suddenly she saw children in a totally new way. She remarks about the preciousness of children and her responsibility to help them find their place in the world.

The development of Ruth's knowledge about teaching children and about life took on new meaning after she attended theological college. The spiritual knowledge she gained gave Ruth a more global view of how she saw herself as a teacher and a person. She believes she has a special responsibility to each of her students to meet his or her need for knowledge and understanding to cope with his or her role in society.

Mandated change challenges Ruth's belief in the acquisition of knowledge. She remarks, as a generalist teacher, it is difficult to read as much as she should to gain the necessary background knowledge needed to teach the curriculum. For example, she believes she should do extensive research into mathematics as preparation for teaching the new program. However, she says this subject is not a strength for her. As a result, her approach to the new program is affected by the knowledge she has used previously to teach the former program.

Even with her own lack of background knowledge, Ruth will examine the needs of each child. According to Ruth, a curriculum is only a guide and what is taught must be modified to take each child to their own new level of knowledge development. Trying to help children reach new levels, through a mentoring process, is the struggle that Ruth describes as her daily joy and frustration.

The second theme of importance in Ruth's life is relationships. Ruth's childhood begins in the bombed out cities of Europe at the end of World War II and she describes her impoverished living conditions in refugee camps. Even in these conditions she saw life as a great adventure, when she played with her siblings and friends in the rubble of buildings. The remembering of her arrival in Canada and starting a new life is still marked with excitement.

When Ruth started school, she knew no English but yet with the help of her older sister and Grade 1 teacher she learned to speak, read and write English by the end of the year. This experience seemed to begin an experience of learning which was enhanced by several teachers who encouraged her to "fly with them" and develop her knowledge base.

Ruth also states the importance of the Ukrainian culture in her life. Even though she went to school with the rest of the children in the community, on Saturdays she went to a Ukrainian School to learn about her culture and language. Growing up as an immigrant in a Canadian community brought a belief she was somehow special. She states her friends at school did not get the privilege of attending school on Saturdays. As well, she was able to experience not only the Canadian holiday festivals but also the Ukrainian Christmas and New Year. The relationships which she developed in the Canadian society plus the ones developed in the Ukrainian community gave her a special feeling about her own identity but also an "otherness." Harmony seemed to last between the two groups of relationships until she started high school. At this time she began to question her relationship in the Ukrainian community. She even questioned the very existence of the Ukraine as a country. Friendships with the "English" boys brought her into conflict with her father. However, Ruth states even through this rebellious period, she had an excellent relationship with her mother. The relationship was termed "unconditional love."

In her teaching career Ruth has relied heavily on close relationships with groups of teachers on different staffs. She stresses not only the importance of the professional sharing that took place but also the social contacts she developed. Being part of a group is important to Ruth, regardless of whether it is family, friends or colleagues. Relationships bring joy and fun to her life.

Throughout her career Ruth has also tried to develop relationships with each of her students. She states she has always enjoyed observing others and how they react to various situations. For Ruth this is vital to learning all she can about each child in her class. She views her role as being like a master teacher helping the pupils develop their knowledge base. It is Ruth's belief she must use all of her effective teaching skills to motivate and excite the child to move to new levels of learning.

Ruth finds she is not always able to accomplish this form of teaching. Often she finds some children in her class have little interest in learning new knowledge. Since she returned to the classroom six years ago, she finds children who now challenge her instead of wanting to develop a positive relationship. Hence, she says she struggles on a day to day basis to teach children according to her effective teaching beliefs.

Mandated change has little influence on Ruth's relationships with her students. Since she teaches to children's needs, programs must be modified to accommodate those needs. Having little concern for the achievement tests of Alberta Education, Ruth puts her students before external pressures to conform to a curriculum.

Finally, Ruth views the relationships which she has from a spiritual perspective. From this vantage Ruth questions her own purpose in life and how she should relate to others. She continues to try to help her children develop the values and acquire the knowledge they will need to survive in this world society. She looks beyond her Grade 3 classroom to whether she is successful in educating Canada's future adult citizens.

In conclusion, Ruth is nearing the end of her teaching career but her quest for new knowledge and her belief in enjoying fellowship with others is still strong. Ruth believes life is to be enjoyed and she hopes she can pass that enthusiasm on to everyone with whom she comes in contact.

Creating a Profile for the Third Participant

The third participant, Gino, is an elementary school classroom teacher with thirteen years experience. He is presently teaching at the Grade 4 level for a Catholic School Board in a large urban centre in Alberta. His experience consists of teaching in a remote Native community, teaching in a special education site with children who are behaviourally disturbed and teaching for several years in division two of the elementary school.

Gino has only been away from this urban centre for the years he taught in the Native community. He grew up in, what he terms, a lower middle class neighbourhood which was mainly composed of blue collar working class people. His father worked as a millwright for thirty years with the same firm and his mother was a homemaker for her entire life. While neither parent progressed beyond Grade 9, they very subtly emphasized the importance of learning. As Gino describes, "It was just assumed you'd do well, and if you don't, that's fine, but you'll do well" (Int. 2, L. 608-609). The importance of knowledge seemed to be emphasized in the value placed on reading. Both parents read to the children when they were small and Gino reports his parents read the paper every day and watched TV newscasts at least twice each evening, so that they possessed an interest beyond their community into the world abroad. He also mentions the importance of his family driving him to the library each week to take out the maximum of ten books. Furthermore, cultural experiences were a high priority as they visited the provincial museum six times a year. They also visited the museum in every town they passed through while on vacation.

Stability describes Gino's childhood. Changes were not a threat to him or his family. "Change was pretty much always positive just because change wasn't thrown at my parents. They didn't lead lives where they lost their jobs.

They were in control of their little world, and, because of that, any changes generally were positive" (Int. 3, L. 1279-1283).

This stability was reinforced by a very consistent approach that his parents took in every aspect of his life. Gino describes his upbringing in this way.

> I have a great respect for my parents and I guess the respect comes mainly because they walked the talk. Their actions and what they said matched their beliefs in what they were telling us to do...They expected us to treat people well; well they did. They expected us to help people; they did. (Int. 2, L. 994-1000)

School for Gino began in a private play school setting which, once again, shows the importance Gino's parents placed on learning. He remembers going twice a week for two and a half hours and enjoying the songs and arts and crafts program, which he says, was an extension of what he did at home. As he moved into his Grade 1 year, a crush on his beautiful young female teacher might be what stands out on the surface. However, he says he was a young boy who always strove to please. Happiness for Gino in those first years at school were measured by how well he was accepted by his teachers and his peers. Of his Grade 3 teacher he says, "I just remember her being very, very happy. She seemed very happy and always smiling and laughing, and loving it there. I loved it there" (Int. 1, L. 278-281). The following year he reports the opposite experience. "In Grade 4 I had a teacher who was very strict and did a fair bit of yelling at us. It just didn't seem fun and she yelled at us a lot...It was drudgery... it was a chore to be there, and I didn't want to be there" (Int. 1, L. 281-287). Even then Gino was making judgements as to how an effective teacher should act. His fondest memories of elementary school were in Grade 6 when the principal came in to teach the science course. He recollects, "It was just marvellous because he loved to be there and he would ask what we wanted to know today. We learned everything we wanted to know. He seemed to know everything and was kind and caring" (Int. 1, L. 302-305).

As Gino progressed through the education system, he seemed to be quite successful and achieved in most subject areas. By the time he reached Grade 8 he was streamed into the top group which brought him added pleasure. "I happened to be in the top class and I remember feeling the superiority in that we were challenged. We knew the teachers gave us more work and more difficult work than everyone else and loving that" (Int. 1, L. 549-553). Junior high and high school bring back very fond memories. Gino was an all round student. He excelled in his school work and related well to his peer group. He enjoyed and participated in various sports but was never, what he terms, "naturally skilled" as he had to work hard to be good. As he says, "I was good enough to be accepted" (Int. 1, L. 592) . "Everyone liked me. I seemed to get along with people" (Int. 1, L. 605-606).

Gino attributes his success in school to a lot of hard work and a special ability to "memorize facts fairly well... You're rewarded for knowledge in school. I did well on tests. I could put up my hand and answer questions, and you got positive feedback" (Int. 2, L. 412-424). For Gino, doing well in school seemed to be intrinsic as he set his own expectations of how he performed the role of an effective student. However, he required effective teachers to be able to succeed. A positive school experience in high school led Gino to desire a university education.

With a love for science and mathematics Gino decided to enrol in engineering in the large university in his home city. With a 98% in physics in his Grade 12 year success seemed almost guaranteed for him. However, the opposite turned out to be the case. Instead of the expected 8's or 9's on the grade point scale, Gino was only able to achieve 6's or 7's, no matter how hard he worked. His confidence in himself seemed to be greatly tested at this point. From his comments it would appear the university experience in engineering was not what he expected. "I think it was the subject matter. It was the speed. It was, maybe presentation style, where up to then, teachers had always been approachable... But now you're in a group of 300, and the person up there at the front, and they're just spewing knowledge. You're just a receptacle and if your friends don't understand, you're lost" (Int. 1, L. 793-800). Gino also "hated" the workload with classes starting at 8:00 a.m. and finishing at 5:00 p.m. He would work then on until 11:00 p.m. Saturdays and Sundays were also consumed with the work preparation for the classes. He probably could have weathered the heavy workload except for a very uncomfortable working arrangement established for the students. The engineering students formed into groups of three as problem solving teams. Gino reports these groups were intended to be collaborative and aid the students in their learning. Instead of aiding in the learning process the group isolated him from seeking help from other students, creating a competitive environment. He describes the competitive spirit among the students in this way.

> I think for the first time there was horrendous competition in that you had your 3 friends, and you ate and you worked on problems together. You worked on pages and helped each other but nobody else would help you because you were in competition for marks...I remember, maybe for the first time in my life, things hitting me and being very, very confused. (Int. 1, L. 773-783)

It would appear also for the first time Gino was not enjoying school. While he had to work for his marks in the past, success now seemed to be eluding him. Halfway through the first semester Gino decided to do something constructive to make his university education a more enjoyable experience.

From an aptitude test taken in Grade 12, he was advised to chose either engineering or education as a career path. Since the first was not a happy experience, he decided to switch to the Faculty of Education and pursue a teaching degree. This decision was supported by the success he experienced as a playground supervisor when he was 16 years old. He recalls, "I liked being around kids and I had positive school experiences" (Int. 1, L. 877-879). Since he had no trouble moving his first term credits, Gino began a Bachelor of Education degree in the second semester of his first year.

The atmosphere he found in the education faculty amazed him. "If you needed help, there were people there to give you help. It wasn't the same competitive spirit. You didn't have that core group of friends that you travelled with... you were in competition with yourself" (Int. 1, L. 927-936). Compared to engineering where theories had to be applied to solve problems, his education courses seemed to be quite easy and satisfying. "In education there are theories and if you could regurgitate the theory, that was pretty good. There was very little application, so you didn't have to apply the theory" (Int. 1, L. 969-972). He states that in the school as a teacher, "The theory kind of falls by the wayside. As a teacher you don't have time to do theory; you're so busy marking, and what's on the next page....especially as an elementary teacher because every day is different, and the night before is preparing for the next day" (Int. 1, L. 1008-1012). Gino feels this is unfortunate due to the time constraints he faces.

Gino completed his practice teaching sessions in a Grade 1 class for four weeks and in a Grade 4 classroom for eight weeks. Both of these experiences seemed to be very positive.

> I had a wonderful time and felt very confident. The teachers gave me a lot of responsibility. I remember accepting it and getting along well with the staff. As a student teacher I was very respectful. I listened. I

> asked. I didn't walk in there and think I knew everything but I was also feeling confident that I could do whatever was given. (Int. 1, L. 1074-1080)

Gino graduated from university at a time when the supply of teachers far exceeded the demand. His girlfriend moved to Northern Alberta to work and Gino joined her and was able to secure a teaching position in a remote Native community nearby. For the first two years he was the music teacher for Grades 1 - 9 and he says he was given that assignment because he was the only teacher on staff who could read music. Of this position he recalls, "I felt again a little frustrated because it wasn't a strength and especially in Grades 7, 8, and 9 a lot of them don't want to do it" (Int. 1, L. 1194-1197). However, he also had duties as a resource teacher in math and language arts which seemed to give him more satisfaction. "I loved working with the kids one on one, especially there were some 15 and 16 year old guys, pretty worldly, pretty knowledgeable, but really got to know them, and got along well with them" (Int. 1, L. 1203-1207). Gino remembers he was accepted in the community but, at the same time, he knew he was an outsider who would never totally belong. He says, "Not for a minute did I believe I was an accepted member of the community. People treated me with respect, and they included me in many things, but I was an outsider" (Int. 1, L. 1222-1225). As well, he believed his position as the school teacher created a barrier between himself and the community. In his discussions about his principal he states, "Because he wasn't born into the community there was a separation. Because he was the principal of the school, there was a separation, just like myself" (Int. 1, L. 1268-1270).

His four years in that community bring back very pleasant thoughts. He describes it as "A very different world, but I love that community. I learned so many different things, not only about Native culture" (Int. 1, L. 1219-1221). When it came to teaching, he remembers it to be a different experience than what he experiences today.

> You knew the kids because it was a small community. You knew everything that went on in their lives. So, it was the kids who were important, and I think I was most creative then because there wasn't the pressure of curriculum. I don't want to say they didn't want high standards, but there was a realization we're not going to set the world on fire, so, let's make it fun. Let's make it enjoyable and let's have them show up. (Int. 1, L. 1229-1241)

Gino also remembers the many extra hours he spent after school preparing lessons, organizing, creating extensive bulletin boards and coaching boys' hockey. He recalls, "One the saddest days of my life was when I left"(Int. 1, L. 1301-1302). He returned with his girlfriend to the city after four years in that school.

Gino did not have a job to come to and the search began. He was able to do some supply teaching initially and he reports it was positive, as he was able to get lots of ideas for his future teaching roles. He was able to secure a full time teaching position in a behaviour modification class with the Catholic School Board even though he was not a Catholic. For the first six months Gino struggled to be an effective teacher. He recalls,

> I can remember for that first six months being very lost because it wasn't like, this is how you do it. You figure out how to do it...I was lost in terms of organization because you try something with these kids and it wouldn't work, Then you'd switch consequences; you'd switch seating arrangements and you were always switching trying to find something you and the kids were comfortable with. (Int. 1, L. 1348-1358)

Gino does have a positive memory of his three years as a behaviour modification teacher and he was often called upon by other teachers and the University to give lectures on student behaviour. I believe the following statement sums up Gino's thoughts on that teaching experience. "In hindsight, a wonderful experience and I learned a lot. Six kids in the class and you got to know them very well. You were not being jammed with the curriculum. If they were not hitting each other life was good" (Int. 1, L. 1341-1344).

Preferring a new challenge Gino was able to assume the role of the Grade 6 teacher at the same school. This turned out to be a very enjoyable experience and he loved teaching children of that age. He also remembers the activity of this school as a "go go school." He recalls,

> I was on the go non stop at the school and loved it. In a sense I became a sort of a leader at the school because of that. And once again, the feeling that I was good at my job, as a leader I'm respected and got along well with the parents. I worked with some fabulous colleagues, learned a lot, and was given a lot of responsibility by the administrators. (Int. 1, L. 1393-1400)

After four years in that teaching assignment Gino began to feel the need for a change. However, not being a practising Catholic created problems for him when he sought a position in another Catholic School. Initially he was turned down for a job. The principal reconsidered and he was offered the position. Gino declined the offer and accepted a position at the Grade 4 level in his present school and, in this case, not being Catholic made no difference. He describes his present school in the following way.

> It's a much more laid back school. It's not how much we can do. It's let's make sure we're all happy and comfortable and not in a lot of stress. The parents are a little more difficult at this school and that's probably the thing I hate the most. It's a really nice school in terms of kids. (Int. 1, L. 1431-1439)

Gino has always been extremely active in extra curricular duties but he indicates he has cut back on these activities to devote more time to his young family. However, not having a high profile in the area concerns him. "Now

I'm sort of sinking into the woodwork and that worries me" (Int. L. 1453-1454). Gino wants to become an administrator one day and is aware that not being a Catholic will hinder promotions.

In summary, Gino had a very positive school experience as he grew up. He endeavours to be an effective teacher in each of his teaching positions. With this background I now examine Gino's beliefs about effective teaching and change.

Repertory Grid Analysis of Gino's Beliefs about Teaching

In our first meeting, and prior to the first recorded interview, I gave Gino the effective teacher elicitation form to review and complete. I also asked him to add or delete any elements he did not consider relevant to his own situation. Gino listed elements for all the categories except for who he considered to be his least effective teacher in senior high school. He did not add any new categories to the list I presented to him at our first meeting (See Appendix A). Gino selected eleven individuals who he considered to be either effective or ineffective teachers. The list of elements identified consisted of elementary, secondary and university teachers, who had taught him, plus one teacher he worked with whom he would like to emulate and one who he would not wish to emulate. Immediately following our first interview Gino and I inserted the elements on the Repertory Grid form and, using the triadic method, established the bipolar constructs. Gino selected twelve bipolar constructs to establish effective and ineffective qualities for his elements. I asked Gino to use a 1 - 5 Likert Scale to rate all of the elements against the bipolar constructs. I asked Gino to include himself when he rated the participants, so I could compare his comments with the ratings he assigned to himself.

Between the first and second interviews I entered the information, that Gino had given me, in the *Rep Grid* computer program. The program produced a mathematical analysis of Gino's beliefs about which constructs he held to be most effective for teaching and which he held to be least effective. The entire twelve constructs for effective teaching were held to be important with all being over the 80% threshold. The bipolar constructs were organized into five groupings and I will list them in their groupings with the constructs for effective teaching appearing on the left hand side of the page.

Group 1:	
Knew Subject Matter	Didn't Know Subject Matter
Group 2:	
Consistent	Inconsistent
Expected High Standards	Accepted Low Standards
Prepared	Unprepared
Encouraged Going Beyond	Uninspired
Group 3:	
Interested In Student as a Person	Uninterested in Student as a Person
Made Learning Interesting	Boring
Creative	Not Creative
Group 4:	
Sense of Humour	No Sense of Humour
Respect	Lack of Respect
Love of Students	No Love of Students
Group 5:	
Excellent Discipline	Uncontrolled Discipline

The *Rep Grid* computer program also noted the teachers Gino considered most effective and ranked them to least effective. This information became the focus of the conversation in the second interview. For the second interview we not only discussed the elements and effective teaching constructs but also their personal historical basis and how mandated change impacts those beliefs.

Table 7 indicates the ratings Gino gave himself as an effective teacher, Gino's ratings for himself indicated that for eight of the twelve constructs he identified himself highly with effective teaching. He gave himself a neutral three in the areas of knowing subject matter, being prepared, making learning interesting and being creative.

TABLE 7

GINO'S RATING OF HIMSELF AS AN EFFECTIVE TEACHER

	1	2	3	4	5	
Knows subject matter			*			Doesn't know subject matter
Consistent		*				Inconsistent
Expected high standards	*					Expected low standards
Prepared			*			Unprepared
Encouraged going beyond	*					Uninspired
Interested in student as person		*				Uninterested in student
Made learning interesting			*			Boring
Creative			*			Not creative
Sense of humour		*				No sense of humour
Respect		*				Lack of respect
Love of students	*					No love of students
Excellent discipline		*				Uncontrolled discipline

* Refers to Gino's ratings of himself against the bipolar constructs for effective teaching.

Gino's Beliefs about Effective Teaching

The second interview with Gino was devoted to examining the constructs he identified as being necessary for effective teaching. We discussed the situations when he encountered these constructs in his lifetime and how he tries to perform his role as a teacher.

Gino identified knowing subject matter as being the most important construct for effective teaching. Gino is an individual who has a thirst for knowledge in areas that interest him. He indicates, as a young boy, he went to the library every week and books on science and social studies seemed to be his first choice. As he says, it was a "Curiosity about the world and how things worked" (Int. 1, L. 614-615). Three of the teachers Gino identified as being effective emphasized knowledge as being extremely important. Gino sums up the importance of knowledge when he describes one of these teachers. "She brought her passion for the arts, and for learning and for knowledge for knowledge sake and I think she instilled that in her students" (Int. 2, L. 51-53). Gino indicates he places his most effective teachers on a pedestal because of their background knowledge. "I sort of view it as knowing what I'm talking about and I viewed my teachers maybe on a pedestal. The teacher knows everything, and I feel that's important not that we have to know everything, but we should know what we're talking about" (Int. 2, L. 233-237). Gino goes on to indicate that having good background knowledge is crucial to his effectiveness as a teacher. He describes a situation in his career where he felt quite inadequate due to his lack of knowledge.

> If you stick me into a class where I don't have a good background, I feel very, very uncomfortable. I was a music teacher for four years, a very uncomfortable situation. I could teach the writing of music, and the reading of music because I knew that. But the singing and the singing parts, and how to do that I did not know very well. (Int. 2, L. 499-504)

Gino also struggles over what knowledge and experiences he should be giving his students and the demands placed on him by society. This may explain the neutral three he gave himself in the Repertory Grid construct rating. "I view what society says and what society wants as sometimes being very different... They say explore, explore, explore but yet they give us this test, and we have to try to meld the two. I think this is what teachers struggle with" (Int. 2, L. 1172-1176). Gino wants a complete background knowledge for every subject he teaches. However, due to time constraints he later identifies, Gino feels frustrated in the area he considers most important for effective teaching.

The second group of concepts contain four sets of constructs consistent, expects high standards, prepared and encourages going beyond. I address Gino's thoughts and memories of each separately. Being consistent is a concept Gino values from his own upbringing. "My parents were very, very consistent; consistent in affection; consistent in discipline...Things were just done very consistently. It was in a certain sense a peaceful, calm consistent childhood" (Int. 2, L. 515-531). In school consistency was needed for Gino to feel success. He recalls, "I think teachers that were consistent I liked... I knew where I was sitting and this is the routine. I work very well with routine... I'm comfortable with consistency even as an adult" (Int. 2, L. 535-539).

In his career Gino recognized the vital importance of consistency in his years as a behaviour modification teacher. He remembers the absolute necessity for consistency with those children. "That was the class, if the taxi was two minutes late, these kids were walking home because it wasn't coming" (Int. 2, L. 572-574). Even today Gino recognizes the importance of consistency for some children in a regular classroom.

> If you move their desks around, for some kids, it can be traumatic. Also it can be chaotic and I'm not big on chaos. You walk into my classroom, it's very consistent. There are times when they're up and moving, and they're loud, and they're working in groups; as long as it's towards a purpose, there's not chaos in my class. (Int. 2, L. 576-583)

The second construct of the group is expecting high standards. As he was growing up, his parents did not place high standards of achievement on him but it was intuitively expected. Even in school, teachers never seemed to have to tell him to perform at a higher level. High standards seem to be intrinsic for Gino. While he states he never felt he had to do well in everything he did, certain situations and challenges pushed him to excel beyond the standard. "I think I push myself, but once again, in certain things, and in certain areas... If I wrote a book report, I expected to do a good job, and I expected to put in more work than other students" (Int. 2, L. 623-634).

Gino always held high standards for his performance as a teacher.

> In teaching, this is my chosen field, so I expect a high standard in terms of my conduct, in terms of my knowledge, my pedagogy and how I treat other people. I expect from my students high standards in terms of, I expect them to do their best... I think one of the frustrations is, it's amazing how little effort there is out there sometimes. (Int. 2, L. 645-653)

The third construct in the group is being prepared. As a child Gino remembers that being prepared was very important to his parents. He remembers when they went camping, lists were always made to ensure nothing was left behind. He says his parents packed things for emergency situations other campers never even thought of and even today extensive planning goes into everything Gino does.

At school Gino was the student every teacher enjoyed having in his or her class. "I always had my pencil and always had my reports done on time, and everything was definitely prepared" (Int. 2, L. 692-694). Possibly we can understand his need for being prepared in this way. "If I'm not prepared I'm not comfortable" (Int. 2, L. 255).

As a teacher, Gino places high expectations on himself to be prepared for every aspect of his teaching role. "My expectation of myself is when I walk into that room I should know exactly what I'm doing. My material should be handy. Everything should be working" (Int. 4, L. 751-755).

The fourth construct in the group is encouraging going beyond. Two teachers Gino recalls as being highly effective had the ability to inspire the students to go beyond the regular curriculum. In both situations Gino felt the urge to learn more about the topic he was studying. All of his life he has been interested in what he describes as "Mundane little facts and trivia and that's where it sort of started" (Int. 1, L. 667-668). His mother provided an example for him, as well, in someone who went beyond in the search for knowledge. He remembers the zest for learning everything she could for her sewing craft.

In his career he says, "In terms of extra curricular, I've always probably done more than the average teacher. The pattern was set in my first four years of living alone in an isolated community. There was nothing else to do, so you went beyond in everything. You were taking kids on field trips and volleyball tournaments" (Int. 2, L. 744-749). Gino has been a very active member in every school in which he has taught. He has shown leadership as a professional development coordinator for his area plus many extra curricular sports activities in his school.

The third group of constructs Gino identified for effective teaching consists of interest in the student as a person, making learning interesting, and being creative. Once again, three teachers were identified by Gino as having a special interest in the students which made him feel special. Of one of them he says, "It was just a feeling that you were important, a feeling that what you said mattered" (Int. 2, L. 28-29).

Gino was surprised this particular construct was in the third group and not the first, as he believed that the interest of students should be ranked very high. "When I look at teachers I admire, many times those are the qualities that I think I admire in them" (Int. 2, L. 129-132). In his career Gino has tried very diligently to gain an understanding of each of his students. He says taking children on field trips is a way he feels helps him see the child in a new setting. He adds it also helps the students to see the teacher in a new situation, as well. In his present teaching position he finds it more difficult to understand the children beyond the classroom situation. Being active with extra curricular activities and working through the recesses hinder his attempts to learn more about his students. However, he does say, "You find out little bits, and you talk. Kids love to talk. They love to share and we do sharing every morning" (Int. 2, L. 820-822).

Three effective teachers came to mind when I discussed how teachers can make learning more interesting. All of these teachers involved their students in such things as debates or research project work. As Gino recalls, "It was fun; it was interesting; we were involved. Once again, I love that kind of stuff... That was a class you wanted to go to" (Int. 1, L. 1140-1145). However, as a teacher Gino struggles with this construct.

> This is something which I think is very important. I think in the teachers I admire, that's a quality that stands out. I realize though, I'm not the most interesting teacher. I have my moments, but that's an area I have to work on. When I do things that are very interesting, I always feel that pull. Making things interesting always takes a lot of time. (Int. 2, L. 294-302)

Throughout our discussions Gino raised the issue of trying to cover an entire curriculum and feeling the "pull" of lack of time to accomplish everything that is mandated. Unlike some of our previous participants Gino believes it is his duty as a teacher to try to cover the entire curriculum. As well, he feels the external pressure placed on him by the provincial achievement tests that are published each year and his commitment to his students that they are prepared to write those tests. He describes it in this way. "One of the great dilemmas I have, is schools are judged by their testing, but we're told to do exploratory, hands on education. And I guess I'm uncomfortable in how I wed the two. How do I make it an interesting, zany adventure that is fun" (Int. 2, L. 868-873)?

Creativity was identified as the third construct in that group and it is not one Gino has identified as a strength for him. However, it is a characteristic he admires in others. Both of his parents are held up as examples of individuals who are quite creative. Possibly the question is not whether Gino is creative or not but his perception of that construct at this point in his teaching career. Gino informed me that when he was in the Native community and had lots of time to work at the school, he had the most creative bulletin boards he has ever had.

Gino's present struggle for creativity is the same as I mentioned in the previous construct. As he says,

> I fight this in my role as a teacher, making it creative, interesting and fun; and how to do that yet make sure all this information or these skills are passed on...I have never figured it out. They seem to be on two poles. Instead of finding one nice comfortable position in the middle, I sort of dance back and forth between the two. (Int. 2, L. 889-901)

The fourth group of constructs on effective teaching are a set of characteristics a teacher should display towards students, have a sense of humour, show respect and love students. Having a sense of humour is something Gino believes every teacher should possess. He remembers both of his parents having a great sense of humour and once again, he identifies his most effective teachers with that trait. As he says, "I remember teachers having a sense of humour and enjoying it... I think I have a sense of humour. I like to play with words, and I do that in the classroom" (Int. 2, L. 962-966).

Respect for students and love of students are very closely intertwined and also relate back to a previous construct, interest in students. Respect and love seemed to be an integral part of Gino's youth, both at home and at school. I mentioned earlier Gino respected his parents for "walking the talk." What they said and the values they held were examples Gino adopted as his own. As he says, "You treat others with respect and that earns you respect" (Int. 2, L. 1014-1015). Added to that is Gino's expectation respect is also earned if you try to do your best at all times. Those expectations are placed on his students, as well as on himself.

Once again, love for students is something Gino says you have to have to effectively teach children. "The thing that disappoints me most is when a kid goes home sad, or heaven forbid, if a kid doesn't want to come to school" (Int. 1, L. 1520-1522). If that were to happen, Gino would feel he totally failed as a teacher. During his youth he remembers his own effective teachers. "Students just seemed to make them happy. They loved listening to the stories. They loved listening to the tales. It made you feel important...That love of students goes a long way, in that, if that kid feels that love, it takes care of so many problems a teacher could have" (Int. 2, L. 1039-1050).

The final group contains just one construct, excellent discipline. Since this construct can mean different things to different people, I asked Gino to clarify what he believes it means.

> I think discipline is not something you learn. I think discipline is something that's not a magical quality, but it's something that's built up. Teachers who have good discipline in their classes don't have it because they're the strictest, or have the best rules, or the best set of consequences. I think teachers, where there's consistency and respect, and a sense of humour; all those other qualities. I think if they're there that discipline is there. (Int. 2, L. 367-374)

In effect, Gino believes if you combine the other eleven beliefs about effective teaching, you will achieve excellent discipline.

While Gino does not remember his parents being strong disciplinarians, what seemed to be far more important was their respect. As he says, "Obviously you did not want to displease them, and it wasn't because you feared them, maybe because you feared losing their respect" (Int. 2, L. 1072-1074).

Repertory Grid Analysis of Gino's Beliefs about Change

At the end of the first interview I gave Gino the sample element elicitation criteria that was utilized by the previous participants for change and, for our next discussion, I asked him to consider individuals who would meet those criteria. I asked him to complete the element elicitation and add or delete any criteria he felt would be more relevant to his situation. I informed him we would be utilizing, at our next meeting, the elements he identified to develop constructs of beliefs about change.

After we completed the second interview, I asked Gino to discuss the elements he had selected for individuals who embraced or resisted change. Gino indicated, while completion of this form was much more difficult, he was able to complete the entire fourteen elements and did not add or delete any of the criteria.

Once again, utilizing the triadic method, Gino compared the elements in groups of three and established fourteen bipolar constructs he felt addressed the issue of characteristics individuals displayed in situations of change. The next step in the process was to rate, using a 1 - 5 Likert Scale, all of the elements against the bipolar constructs. I also asked Gino to rate himself against the bipolar constructs to indicate his acceptance or rejection of the constructs in a mandated change situation.

Between the second and third interview I entered the information on the elements and bipolar constructs, plus the ratings data, into the *Rep Grid* computer program and printed a Focus Report to illustrate the importance of the constructs. The Focus Report also identified groupings of constructs that were given close to equal mathematical weight.

The Focus Report indicated the entire fourteen constructs Gino selected were at least given 80% or higher and this resulted in our discussions centring on all of them. As well, the report also indicated the individuals who stood out as embracing change and were ranked opposite to those who were most resistant to change. Gino ranked himself as sixth behind five other individuals who embraced change more readily than he did.

The following list of bipolar constructs illustrate these groupings.

Group 1:	
Makes Change Fun	Does Not Make Change Fun
Change for Change Sake	Stuck in the Mud
Group 2:	
Change as a Challenge	Change as a Threat
Accepting Others' Opinions	Rejecting Others' Opinions
Group 3:	
Adaptable	Not Adaptable
Acts Comfortably	Acts Uncomfortably
Enjoys Change	Doesn't Enjoy Change
Group 4:	
Aware of Trends	Unaware of Trends
Change as Positive	Change as Reactionary
Sense of Humour	No Sense of Humour
Group 5:	
Accepts Dares	Dismisses Dares
Group 6:	
Flexible	Inflexible
Giving Personal Time	Not Giving Personal Time
Group 7:	
Meaningful	Lack of Trust

Gino identifies himself as being an individual who enjoys being around change but some previous experiences, discussed in the next section, cause some cynicism. This may help understand the ratings he gave himself (See Table 8). Ten of the fourteen constructs were rated positive 2's with accepting a dare rated as 1. Four of the constructs were given a neutral 3: makes change fun, aware of trends, change as positive and sense of humour. To explore Gino's beliefs about change in more detail we discussed the elements and bipolar constructs he selected in our third interview.

Gino's Beliefs about Mandated Change

As Gino was growing up he remembers his family being very stable

TABLE 8

GINO'S RATING OF HIMSELF IN BELIEFS ABOUT CHANGE

	1	2	3	4	5	
Makes change fun			*			Does not make change fun
Change for sake of change		*				Stuck in the mud
Change as a challenge		*				Change as a threat
Accepting others' opinion		*				Rejecting others' opinion
Adaptable		*				Not adaptable
Acts comfortably		*				Acts uncomfortably
Enjoys change		*				Doesn't enjoy change
Aware of trends			*			Unaware of trends
Change as positive			*			Change as reactionary
Sense of humour			*			No sense of humour
Accepts dares	*					Dismisses dares
Flexible		*				Inflexible
Giving personal time		*				Not giving personal time
Meaningful		*				Lack of trust

*Refers to Gino's rating of himself against the bipolar constructs of change.

and they were not faced with major changes. He grew up in the same house and his father held the same job for thirty years. As a result, change for Gino would be different routines and experiences to which his parents exposed him. He recalls, "I think, for a kid, change itself is exciting" (Int. 3, L. 899-900). His first memories of change came to him in his junior high school years when he experienced teachers whom he perceived to be intentionally introducing changes to their program to make it more interesting. Secondly, he became friends with a young man who became "Mr. Change" for Gino and that friendship exists to this day.

Gino identified making change fun and change for the sake of change as the two most important constructs in his beliefs about change. Gino seems to associate change that is fun with teachers who taught him in innovative ways. His social studies teacher comes to Gino's mind as a teacher who introduced debates, games, and lots of student discussion, which was a change from the rote learning he did in other classes. He also remembers a colleague with whom he taught as being an incredible change advocate, who brought culture into her classes. She impressed Gino with the way she introduced new forms of methodology for the enjoyment of her students. From a personal point Gino remarks, "In a teaching context, the change has to be fun. It has to involve the sense of humour. It has to get people smiling, doing things, perhaps moving. I think the best classes that I teach are change when it's fun, and at the end people are smiling" (Int. 3, L. 221-225). In the new mathematics curriculum Gino is implementing, he sees the use of manipulatives as being positive for the children and maybe less so for the teacher. "Change will be fun because there will be manipulatives. It might be a little less fun for the teacher because I think they're under more stress in the change" (Int. 4, L. 957-959).

When it comes to change for the sake of change, I asked Gino to explain what he meant by this statement. He stated,

> I'm talking more on an individual level where, as a teacher, to stay fresh and to stay challenged, I should never teach a unit the same way....every summer I rewrite my plans...I think it's incumbent upon a teacher to change, to try new things, just for the sake of change, not to be satisfied that this is the best way. (Int. 3, L. 249-265)

Gino is referring to voluntary change when he discusses this construct. He goes on to say he is always trying to change, so as to stay fresh, in his role as a teacher. "I think it's personal to stay fresh, to challenge myself. I think it's also to adapt to the students and sometimes I just change to try something different. Just take different roads and see where it leads" (Int. 3, L. 1019-1022).

The second group of constructs Gino identified as important for change is change as a challenge and accepts other's opinions. Gino remembers the influence that his best friend has on him in this area. "He looks for change, and looks for a challenge. Those around him he draws in, and because he is so good at meeting a challenge, you feel comfortable being drawn in. It's exciting. It'll turn out, and if it doesn't, big deal. There doesn't seem to be a risk, and whatever the risk, it's fun" (Int. 3, L. 35-40). He goes on to state, "It's a quality that I admire...I think knowing he's out there and trying different things, sort of inspires people to try different things" (Int. 3, L. 58-63).

The construct, change as a challenge, seems to apply more to voluntary rather than mandatory change. Gino does not view the first year of mandatory change as a challenge, according to his perception of this construct. He explains what he means in the following way.

> You take change as a challenge when you're comfortable with what you're doing. In introducing a new program, you're not looking for a challenge, you're looking to get through it. Now, once you start getting through it successfully, then you're thinking, how can I challenge myself with this? How can I make it more interesting or more relevant? (Int. 4, L. 978-984)

Listening to the opinion of others has always been a belief which Gino has carried with him from childhood. His parents always set an example of listening to other peoples' and his opinions. He recalls, "I never remember them refusing to listen to us. We had an opinion, but we were allowed to state it" (Int. 3, L. 1082-1085). He also remembers his teachers also readily accepted his opinions and he attributes it to being a good student. "I did well in school and got along well. Teachers would listen to you and that was nice. It was very important" (Int. 3, L. 1103-1105).

The importance of other people's opinions has been important throughout his career, especially in times of mandated change. As Gino tells us, "If someone comes up to you and says, well, this is what I do, try it this way, I think we have to be accepting of that. It makes us better teachers" (Int.

3, L. 357-359).

The third group of constructs are adaptable, acts comfortably and enjoys change. Adaptability to change has been pronounced in Gino's career. His first four years as a teacher were in a remote Native school in Northern Alberta and that was followed by three years in a behaviour modification class. These two placements seem to have had a major influence on how he adapts to change today. Gino remembers the principal of the Native school as an example of how to adapt to change. He says, "People showed up in the community and that would affect the entire teaching day...there was a lot of change, and it showed the flexibility of the man, to adapt his philosophy, his teaching styles, the way he ran the school to meet the needs of the community, rather than coming here and saying, this is the way it is" (Int. 3, L. 136-154).

As a teacher, Gino stresses the importance of being able to adapt to change, whether it is mandated or if unforeseen things happen to create change. "I think in a classroom, you have to be very adaptable. No lesson, no unit goes exactly as planned" (Int. 3, L. 392-393). When a new program is being introduced in his class he states, "Adaptability would mean the ability to change some of your teaching styles, or teaching practices to suit the new program. One day it asks for groups, and you do groups. The next day if it's seat work, it can be seat work. If it's using manipulatives, you can adapt" (Int. 3, L. 410-414).

Acting comfortably with change is based on Gino's beliefs about change. He states, "You have to view change as natural, and change as important" (Int. 1, L. 1546-1547). In the classroom Gino believes he has to convey that comfort to his students. "If they realize a teacher is uncomfortable with change, they become uncomfortable, and sometimes that leads to misbehaviours... You have to look comfortable. You have to be comfortable with the change and it's not easy when it's something new" (Int. 4, L. 1014-1024). To become comfortable with mandated curricular change Gino insists this can only be achieved through background knowledge and previous experimentation on his part.

Throughout Gino's life, change has been viewed as a positive experience and, as a result, should be enjoyed. He says, "I think if you enjoy change, this isn't as threatening because you realize it's a challenge... and I think if you enjoy change, you accept change for what it is, and change is challenging. Change is difficult. Change is not always successful" (Int. 4, L. 1028-1032). However, there is a flip side to enjoyment of change if the program is mandated and is not an improvement. Gino finds that situation to be quite negative. "Sometimes you come across a program which is completely opposite to your teaching style or the ones where you can't get hold of it. You can't quite figure out what's going on" (Int. 3, L. 496-499). During his career Gino has tried to implement curricula like the one he just mentioned and this may explain his cynicism at times toward mandated change. "If it's not an improvement, then there's no enjoyment at all. It's just mandated change and just sometimes seems to make our lives miserable" (Int. 4, L. 1053-1055).

The fourth group of constructs is aware of trends, change as positive and sense of humour. Some of these constructs touch on previous statements. I comment only on issues not raised previously. During his childhood we learned Gino was exposed to knowledge through newspapers, TV, radio and visits to the library. Today Gino still pursues a wide range of interests as he continues to stay current on local and global issues. However, Gino does not feel he is totally aware of all the trends that affect him in his role as a classroom teacher. Lack of time seems to be the biggest factor inhibiting his quest for educational knowledge, especially in change situations. As he says, "I think an awareness of trends is important towards change, but there's also a little black cloud hanging over it. It has a negative aspect" (Int. 3, L. 545-547). The lack of time during the school day is one area Gino identifies as being a problem. Teachers need planning time to do the background reading that would make them aware of the trends or prepare them to implement new curricula. Gino does not object to taking material home to complete but he comments if too much time is devoted to the school work, his family time must suffer. He sums up the problem of lack of awareness of trends in this way.

> Most of the time in education we have a scant knowledge of new trends. If we do introduce something new, we don't have that in-depth knowledge. We touch the surface of what can I do to make this happen in my classroom without understanding the why's and wherefore's. (Int. 3, L. 529-533)

I think Gino's frustration about mandated change is encompassed in the following remarks. "I want to be like the ones who are aware of the latest trends. I think I've become a little more cynical in realizing that I don't jump on bandwagons too quickly. And I hope I view change as positive. That's what permeates the classroom" (Int. 3, L. 1327-1331).

To add further to Gino's belief change should be a positive experience for both him and the students he says, "Small change is positive; meaningful change is positive. If the curriculum is set out well; if it's not too quick to the last change of curriculum; if you have all your supports, then I think change can be positive" (Int. 4, L. 1078-1082).

Gino identified a sense of humour as being necessary for effective teaching and he firmly believes that it is vital in situations of change. I believe his metaphorical comment illustrates its importance. "You have to have a sense of humour with change because otherwise it'll bite you, and hold on hard" (Int. 3, L. 681-682).

The fifth group of constructs of the beliefs about change is accepts a dare. This construct relates closely to the comments made about change as a challenge. Gino views accepting a dare as something he would consider in voluntary change. He also begins to accept a dare in mandatory change in the second and third year of the implementation. As he says, "You accept a dare when you're comfortable" (Int. 4, L. 1090-1091).

The sixth group of constructs is flexible and giving personal time. Flexible and adaptable would seem to be very closely related. However, Gino differentiates. For example, he sees flexibility as how much time he would spend on a new topic. If he scheduled thirty minutes for a new topic and it took forty-five minutes, then he would rearrange his timetable. Gino believes flexibility is adjusting for the unforeseen. While Gino is able to adjust in situations of change, he views his approach to flexibility and adaptability to new programs in this way. "I basically trust my personality and my style, and do the change through that way. However the program changes, it's still my personality and my style which remains fairly constant" (Int. 3, L. 180-183).

When Gino began his teaching career, personal time seemed to be in abundance. "I was Mr. Change because I had all kinds of time. To avoid boredom I was thinking of ways to change because I didn't want to teach anything the same way" (Int. 3, L. 766-768). Today, his school hours are filled with his teaching duties and his recesses and noon hours are filled with extra curricular sports or helping children in difficulty. His evenings are taken up with a wife and two small children. Even so, school work does come home and time must be taken away from his family. However, it becomes a difficult situation when mandated change is introduced. While Gino sees the need to sacrifice his personal time to gain a background knowledge of the curricular change, he questions from where the time will come, since he has so many other commitments.

The final construct Gino identified is meaningful. The first comment Gino made about this construct was to wonder why it was not rated as first, rather than last. Meaningful change is represented in Gino's mind by the social studies teacher who got his students involved or the principal, during his grade 6 year, guiding him to learn whatever interested him in science. A further example is his university professor who taught mathematics and made it exciting through the use of manipulatives. Experiencing change as a student was enjoyable but implementing mandated change often has not been meaningful for him. As he says, "I think for change to work it has to be meaningful, but I view very little change as being meaningful" (Int. 3, L. 840-842). "Meaningfulness doesn't come from a curriculum, it comes from the way an individual, sometimes a curriculum can help, can set us down a path, but it's up to the individual teacher" (Int. 3, L. 1580-1583).

In my second interview with Gino I asked him to state how his effective teaching beliefs affect his decisions in implementing mandated change. When Gino is presented with mandated change in the form of a new curriculum, his belief that effective teachers should have excellent background knowledge is challenged. If the new subject material is familiar to him, Gino finds little problem in implementing the material. However, in the case of the electricity unit in the new Alberta Science curriculum, he was totally unprepared. He indicates what usually happens in mandated change when he does not have sufficient background knowledge. "You are pretty much one step ahead of the kids, in terms of subject (Int. 2, L. 1158-1159).

Gino does not believe implementing new programs should be a major detriment to consistency. However, he comments, "To begin with, implementing a new program, there won't be consistency" (Int. 4, L. 691-692). This should not present a major problem providing Gino addresses the other issues that promote effective teaching.

> I don't see change affecting consistency very much. You might change a few routines if it's a more exploratory model, or instead of being at the desk, they're working in groups. But as long as the teacher is organized, as long as the teacher has expectations, and students know what those expectations are, and they're realistic, you can change routines all the time. (Int. 2, L. 1181-1188)

When a new curriculum is being implemented Gino believes standards are lowered as time is needed to adapt to the new situation. As he says, "Unfortunately you have to adjust expectations when you're implementing something new" (Int. 4, L. 731-732). High standards have to be lowered personally for Gino when he embarks on a new curriculum.

> Personally, you have to lower your standards because I can't expect to have that high standard for my knowledge of what I'm doing, and how I'm going to teach, and what works and what doesn't. That first year you're scrambling like heck trying to figure out what's going on. Second year you kind of have an idea, and things are kind of working. Third year is where things are running smoothly, and of course, by that time they've changed the curriculum. (Int. 2, L. 1200-1207)

Being prepared in a mandated change situation presents a whole new set of challenges to Gino's preparation. Referring to the new mathematics program he is implementing, he states, "A lot of times programs like this demand a lot more of teacher preparation. There's getting out the materials. Which materials do we need? Setting up; is it stations, or is it groups? Are there activity cards? It's no longer just prepared is, okay turn to page 47" (Int. 4, L. 762-767).

When it comes to mandated change, Gino seems to return to how comfortable he feels, as to whether he can go beyond or take children beyond the curriculum. "Our comfortableness and our love of a subject affects how we encourage students to go beyond. If I'm not comfortable with the subject, then I think that affects my teaching; it affects my mood; it affects my enthusiasm. If that enthusiasm is not passed on to the student, they're probably not going to go beyond" (Int. 2, L. 1268-1273).

When mandated change enters the picture Gino admits the first to go is time spent getting to know the children better. "As a teacher you're struggling; you're losing all your recess times in preparation, and you're losing your lunch hours. You just don't have that time" (Int. 2, L. 1286-1288). However, Gino does identify a positive side to this dilemma. Some of the new programs he is introducing have group work and exploratory components which allow him to see his students perform in different settings.

Mandated change only seems to enhance a struggle that is already taking place for Gino. As he says, "I think when we're hit with something new, we revert to tried and true methods...As for making it interesting, you're just struggling to get through it. Unfortunately your last consideration is, what meaning does this have in the students' lives" (Int. 2, L. 1302-1308)?

A sense of humour is even more important for Gino especially if the change causes some degree of stress. However, Gino tries to look on change in the opposite light. "In a teaching context, the change has to be fun. It has to involve the sense of humour. It has to get people smiling, doing things, perhaps moving. I think the best classes that I teach are change when it's fun, and at the end people are smiling" (Int. 3, L. 221-225).

Respect is a construct Gino does not see being altered in any way in change. Respect runs deeper than any mandated change.

Gino issues a caution that mandated change often hampers his love of students. "If we're under stress, we don't find that love; we don't see it. It's masked by our anger or our tiredness" (Int. 2, L. 1358-1359). Otherwise, as with respect, love of students should transcend everything and not be affected in a change situation.

Gino admits that discipline is not as effective in change situations. Many of the new curricula he is presently implementing prescribe more group and exploratory work. Having children move into and work in groups is a challenge to Gino's perception of good discipline, especially when little or no talking was permitted previously. He states, "It's going to go down any time you do a change of curriculum just because you're not as effective as a teacher. Any time you do group settings, even though it could be a much more valuable learning experience for many kids, it's just an opportunity, or it's not their best learning situation" (Int. 4, L. 937-942).

Implementing New Curricula

Gino is expected by Alberta Education to be in the first year of the implementation of the Western Canadian Protocol Mathematics program and in the second year of the Alberta Science program in his Grade 4 classroom. While Gino was given the mathematics curriculum document and he gave serious consideration to the new expectations, he has not received any support materials to implement the program. He was informed by his principal he is to familiarize himself with the new curriculum but not to worry about full implementation until next year. There would seem to be no adverse reaction to this approach from the Catholic School Board, as they received no direct order to commence the full implementation this year. I asked Gino what differences he perceived between the former curriculum and the new one. He answered in a very positive fashion. "This is laid out very nicely. The language is simple. The specific outcomes are done very well...I'm very, very, very impressed and I can see quickly at a glance what the grade 3's are supposed to do and quickly what the grade 4's are supposed to do" (Int. 4, L. 29-46). In his comments Gino seemed to be less concerned about the specifics of what should be taught and more on the organization of the document. He complained that some curricula are written with a great deal of "bureaucratic language" which often makes comprehension more difficult. He indicates this is not the case with this curriculum.

When I explored with him the new topics he was asked to teach, he identified such things as data analysis and probability. However, he believes many of the topics are not new. A greater emphasis is placed on problem solving, measurement, geometry and literacy, than was placed on them in the past. In previous years he says, "Unfortunately or maybe fortunately your adding, subtracting, multiplying, dividing and place value always seemed to take up 60% of your year" (Int. 4, L. 97-99).

Gino's beliefs about effective teaching do not seemed to be greatly challenged by the new mathematics curriculum. He feels he will have no difficulty teaching all of the topics. In fact, the program supports most of his beliefs about getting children more involved in their learning through the use of manipulatives which he believes will make mathematics more interesting and enjoyable for the students.

His concerns about the program seem to lie in two significant areas. The first is student evaluation and the second is time. The use of manipulatives and more group work raise serious questions for him, when he is asked to assign a mark on the report card for the work completed. Gino has many unanswered questions. "I think when kids are in that exploring, discovery mode, with manipulatives, it's just more to see. Did they grasp this concept? Did they luck out upon it? Did they get it because they worked with a partner? Who did get it? Or are they working individually" (Int. 4, L. 257-262)? He also raises the issue of how should his lower, average or enrichment students be evaluated in this program. All of these questions Gino hopes to have answered through in-service sessions with his board consultant and discussions with his colleagues. This would address his need for background knowledge.

The second concern is time and this is always a concern for Gino when he introduces any new program but he has specific concerns about this program.

> It'll take much more time; more time before school setting things up and organizing....Now I'm developing whole new unit plans. When I write down my daily lesson plans, I have to be much more specific. In terms or preparation of materials, much more time after school in prep time and before school...I think it's a huge time commitment any time you do something like this. (Int. 4, L. 1141-1152)

Gino also sees the need to teach social skills which are not normally associated with mathematics. "You have to spend more time in your class developing the skill of working in a group, which is an important skill, and it translates across the curriculum to all subject areas" (Int. 4, L. 485-487). Added to this is the problem some students are unable to learn effective social skills to work in group situations.

Gino also struggles with an issue that has been discussed previously in our interviews but he raises it again when he implements the new mathematics program. "Sometimes there's a conflict between the problem solving, manipulative approach of discovery and learning, and these are the facts; learn them. And it's creating that balance" (Int. 4, L. 427-430). This struggle seems to be heightened in Gino's mind by ambiguous signals he receives from Alberta Education. He is faced with implementing a problem based discovery approach to mathematics but the achievement tests Alberta Education uses to evaluate students is based on multiple choice tests. His effective teaching beliefs draw him towards totally teaching the way the mathematics curriculum is organized but he is concerned that the tests may cause him to teach more rote material, so his students' test scores will look favourable.

Finally, Gino sees the first year of implementation as a period of time when he will not be as effective in his rating of himself as an effective teacher. By the second and third year of implementation he seems to be gaining control of the change process and feeling more comfortable. He best sums up how he feels about the second and third year compared to the first. "You're in control of your change as opposed to it being thrown at you" (Int. 4, L. 1040-1041).

Gino is in his second year of implementation of the new Alberta Science curriculum. This program seems, to Gino, to be a complete divergence from how he previously taught science. "Science from the past was much more read and answer questions. You had a textbook and when a concept was being introduced, the students would read about it first. There were experiments but the procedures were very precise" (Int. 4, L. 1197-1200). He describes the new program as being almost entirely exploratory and discovery oriented. "It's more exploratory, more discovery, in other words, what shape should a wheel be? How can we figure it out? They try different ways, so, there's more success and there's more failure in what they're doing" (Int. 4, L. 1204-1208).

While Gino strongly endorses this approach to learning, he is concerned about the children who do not successfully complete their experiments. Previously, when he completed science experiments, there was to be only one outcome. If the procedures were properly followed, then the outcome should be accomplished by everyone. This is not the case with the new Alberta Science program. Exploration and discovery create a new dilemma for Gino. He believes experiments should have one solution. The new science curriculum has experiments with multiple solutions. As he says, "I'm frustrated with the fact that we don't all succeed, and if we do all succeed, once again, we have to redo the whole thing. And now, we're all going to do it the same, the right way. But we just doubled our time" (Int. 4, L. 1701-1705). However, he does support the concept of science being based on a problem solving model.

> If we look at things through a scientific mind, in a scientific way, that helps us understand and it allows us to look at things in a logical, orderly curious way... It's going toward a problem basis just like the math is. Here's a problem. We're not telling you how to solve it; you figure it out. I think that's wonderful because I think that's how life is. Life is a series of problems. (Int. 4, L. 1252-1268)

Gino identifies a further problem he experienced implementing the science program; background knowledge. In the first year of implementation Gino felt overwhelmed by the lack of background knowledge he was given to teach the course. Searching for that background knowledge and finding little put stress on Gino's effective teaching belief that he should know his subject matter. He states,

> They didn't give you a lot of background, a lot of detail. It's a little more emphasis on the teacher, and especially since the teacher's guides themselves don't give a lot of detail. It doesn't say, here's everything you need to know about the motion of vehicles, so you have the background; these are the activities for the students. (Int. 4, L. 1225-1231)

To overcome the lack of knowledge Gino turned to the material produced by consultants in the public school system, which he describes as wonderful.

Unlike his Grade 6 teacher who gave him the freedom to learn whatever he wanted in science, this program appears to be more child centred but Gino hastens to say this is far from meeting the needs of children.

> But their plan of action is very closely regimented by what my curriculum says, and what my particular unit is... They tell me specifically what the child will learn, and the child may not give a hoot about it, but it doesn't matter, they're learning it. (Int. 4, L. 1503-1523)

In the first year of implementation Gino attempted to stick quite closely to the methodology laid out in the science curriculum. In the second year he is showing a willingness to modify the program to meet his time requirements. Now he is prepared to pick and choose the experiments he will do. Time does not allow him to complete all of them, so he selects the ones he feels are most appropriate for his class. This year, he is also looking at ways of supplementing the program to make it more interesting and enjoyable for his students. With regard to his unit on waste he says, "You have to pick and choose. You start thinking, what can I do to supplement? Speakers will come in to talk to the class; you go and visit a dump. So you start planning these other little things, and where do they fit in" (Int. 4, L. 1637-1643)?

Gino's comments about his experience of teaching science in the second year of implementation illustrate a strengthening in his beliefs that he is effective as a teacher.

Overview of the Third Participant

Two themes stand out as being of great importance to Gino throughout his life. The first is his belief in the positive types of relationships he develops with others. The second is his acquisition of knowledge and his desire to help others acquire knowledge. In one of our interviews I asked Gino what values he felt were passed on to him by his parents. He responded that the values of honesty, treating other people well and learning were passed down to him. The first two values speak to relationships, while the third addresses the issue of knowledge acquisition. However, both of these are destabilised in times of mandated change.

During his childhood Gino had a very positive and loving relationship with his parents and his siblings. Consistency and routines seem to enhance his feeling of well being and security in those early years. Added to that was his fear of disappointing his parents and losing their respect. Furthermore, learning was subtly reinforced by parents who modelled the importance of reading and knowledge acquisition.

When he began school, those positive feelings were reinforced by teachers, who took an interest in him and established an environment in which he could learn. It was not until he entered the division two years these beliefs in positive relationships and knowledge were challenged. He describes his Grade 4 teacher as an individual who yelled at the class a lot and the work became drudgery. For the first time I saw how intricately connected Gino's values of relationships and knowledge are interwoven. Added to that is his Grade 5 experience in an open concept classroom setting which he describes as chaotic because of the lack of organization. His primary school experience highlights the importance Gino places in teaching beliefs which stress the importance of positive relationships and knowledge acquisition.

In his junior and senior high school years the importance of relationships and knowledge seem to intensify. Acceptance by his peer group is vital during this period of time. He comments he was able to socialize with everyone in his group as well as individuals in other groups. Since he was not a gifted athlete, he had to work hard to develop the skills necessary to be accepted. Furthermore, he had very positive relationships with all of his teachers and enjoyed the ones who presented their programs in creative and unique ways, meeting the needs of their students. Gino also states, during this time, he became a voracious reader to satisfy his own curiosity. This fit in well with the expectations of his teachers who rewarded him for that knowledge.

Gino believed if he could maintain positive relationships with his family, teachers and peer group, plus seek knowledge, he would succeed in life. However, the change that he experienced in his first year of university in the engineering program challenged his philosophy. For the first time he was in an environment where positive relationships with all his peers was not encouraged. He was now in competition with them and only the best would complete the program. Also, he was faced with a new method of learning. He was expected to be a passive receptacle of knowledge which seemed incomprehensible. Previously, he was involved with his learning but now the professor often just spewed knowledge at him. In this situation the relationship with the teacher was gone. He indicates that, with the chemistry professor, he was able to develop a one on one relationship, which helped him understand the knowledge of the subject.

The need for positive relationships and knowledge acquisition led him to switch into a teacher education program. This seems to have reestablished the balance Gino was seeking in his life. He remembers the excellent relationships he established with his professors and students during that period in his life. In his practice teaching sessions he also had excellent relations with his cooperating teachers, the students and the rest of the staff. He was very confident of his abilities and even went beyond what was expected of him.

In his first teaching assignment in the Native school the first few months seemed to challenge his belief in relationships. While he was accepted as the teacher and he was included in community activities, he was an outsider. An invisible barrier was always between himself and the Native population. However, he tried to overcome those barriers through participation in community events such as coaching and playing various sports. He also was able to get to know his students better on field trips, as he saw them in a new light and they saw him also as a human being.

The experience in the Native school taught him the importance of placing the children's needs first and the curriculum second. Knowledge acquisition became an individual matter and he reports he was able to take his children beyond in that setting. It would appear he considered himself to be an effective teacher during that teaching assignment.

In his next teaching position in a behaviour modification class his effective teaching beliefs were challenge in the first six months. He reports he had an extremely difficult time establishing relationships with these children and the importance of knowledge seemed to be of little importance. He recounts how he tried to develop effective relationships with his students through various organizational and routine adjustments and eventually he experienced success. In fact, the knowledge he gained from that situation was sought by other teachers, when he was asked to give workshops on classroom management.

When Gino moved into the elementary grades to teach, he continued to seek positive relationships with colleagues, students and parents. He says, that during those years, he undertook many extra curricular activities from sports to area professional development. Once again, through these types of activities, he believes he gets to know students and colleagues more completely and this helps him to be a more effective teacher. As well, Gino believes that gaining new knowledge in these situations also improves his effectiveness.

In his classroom Gino struggles with both his belief in effective relationships and his belief in the acquisition of knowledge. Approximately three years ago the provincial government introduced a policy to have children in Grades 3, 6, 9 and 12 complete achievement tests. The results for each school were made public and Gino is still trying to reconcile this government action with his effective teaching beliefs. The problem for Gino is the tests seek to establish the knowledge base of children in a particular subject. However, the new curricula, such as those in the new science and mathematics, are discovery based. For Gino he asks how he is to "marry" the two diverging approaches.

His concern for knowledge acquisition causes him to try to teach everything that is prescribed by the curriculum. However, the approach advocated in the science and mathematics is much more problem based and that takes extra time to teach. Hence, the internal struggle for Gino is knowledge acquisition versus relationships.

Gino's beliefs about effective teaching support group work and a discovery approach but his belief in knowledge acquisition seems to be overriding his beliefs in positive relationships. To date, Gino has not resolved how his effective teaching beliefs will impact this major challenge. However, Gino shows from past experiences he will achieve a balance.

Creating a Profile for the Fourth Participant

The fourth participant, George, is an elementary school teacher with twenty-two years experience. For his entire teaching career he has been employed by a large urban public school board in Alberta. He is presently teaching in a Grade 5 classroom half time and performing the role of assistant principal for the remainder of the time.

George indicates he is the youngest in a family of three children. His father was employed as a school principal and later as a school superintendent in a community bordering the city. His mother was a school secretary, and so, the importance of schooling impacted his early life at home. He states he had an excellent relationship with his parents throughout his youth. He remembers the conversations and activities he had with his mother. "We would often linger over breakfast and just talk about things... We used to go to the Y for a physical fitness program...I remember swimming with her...and then we would go for lunch together...there was a certain amount of activity that she kept me in... and the conversations we had" (Int. 1, L. 70-85). His father supported George's efforts at school and encouraged his learning. He says, "I remember him as being patient and supportive... He showed his concern and was always interested in talking about things and making me feel I could rely on him" (Int. 2, L. 26-30).

His relationships with his older brother and sister were also remembered as positive. Being the youngest child in the family seemed, to George, to make his youth easier. He says, "They were able to forge ahead and clear a path for me, so that growing up for me was quite easy. I got a lot of the things the others had to fight for. They came to me quite naturally" (Int. 1, L. 58-60).

While George felt very supported and nurtured in his home, this was not to be his experience when he began school in Grade 1. He experienced problems in learning to read. "It just took me a long time to learn to read. The reading was a real mystery to me. I don't remember becoming comfortable with reading until about Grade 3" (Int. 1, L. 217-220). Added to his problems in reading, socially, he felt lonely, having few friends at school.

During those early years his parents helped him achieve success. "My father did an awful lot of work with me, and also my mother. They read to me a lot. It wasn't hours and hours of work every night, but a little bit. They just constantly kept heading me in the right direction. They took me to the library, and kept me and kept it positive" (Int. 1, L. 224-230). While the reading began to improve, George states mathematics was a problem throughout his entire school experience.

School became more positive for George when he entered grade 4. "I was able to grasp the reading and my other marks went up" (Int. 1, L. 266-267).

In Grade 9 he was put in a class with students who were identified as behavioural problems. George did not believe he belonged with this group and he remembers, "I was very terrified of this group of people, and rightfully so. A lot of them ended up in jail after that year and some of the girls went on to be pregnant" (Int. 1, L. 405-407). Even though it was a negative experience initially, George made it positive. "There was nothing else to do but work, so, as a result, I did really well in my Grade 9 year and I was able to go into the matriculation program in high school. I had a 70% average and I had the highest mark in the class" (Int. 1, L. 415-418). George attributes a lot of his success to his father's help. Every Monday George and another student were tutored by George's father in solving mathematics problems. This resulted in an "H" which indicated highest level of achievement on his departmentals.

Socially, George gained new social skills during his high school years. He indicates, "What I found out is if you really want to be involved you just have to get up and do things. It's not that the other people don't like you. They're not going to drag you in. If you want to be involved, you have to go places" (Int. 1, L. 499-506). His high school years seem to be remembered less for the academic experiences and more for the social activities. Hence, the importance of relationships became an important part of what he valued as he was growing up.

George also took various jobs during this period of time. These experiences seem to have aided his understanding of how to relate to others in the workplace. He remembers two specific situations which challenged his ability to relate to others. The first was the ability to relate to difficult people. "Being able to work for a boss who would call you all sorts of names under the sun, and just go absolutely nuts if something went wrong, and being able to stay calm, and continue to do the work. That was a real training in itself" (Int. 2, L. 1626-1630). The second example George cites as having a major influence comes from his experience working in a grocery store. He says, "In a sense you had to be a bit of a salesperson. You had to relate to people. You had to talk to them. You had to act. You had to pretend you were happy there" (Int. 2, L. 1643-1646).

After high school George enrolled in the local university in a science program. However, he really had no career plans. "I just didn't have a sense of purpose. So this bachelor of science, what do I do with it? I didn't have a clue" (Int. 1, L. 680-681). Even support from both his parents did not seem to give George the direction he sought. "My mom typed all my essays and my dad went through them with me. We talked about them and discussed them. I learned a lot about writing again from my father who was very supportive" (Int. 1, 673-676).

Without a clear direction for his life, George took a year off after completing one year in the science program. He took a manual labour job which exposed him to severe winter working conditions. When he was laid off due to slow economic conditions, he travelled throughout Europe for a short period of time. Upon his return he worked at a building products job for the summer and decided to return to university in the fall. He resumed his education in the science department but, in the first semester, he decided to change his educational focus. He switched into a Bachelor of Education program with the encouragement of his father. He chose to specialize in elementary education. George finally saw a purpose for his life. "I'm a very practical person. Once I knew that there's a goal in sight, I was able to get down to work and do it" (Int. 1, L. 748-750).

George remembers his practicum experience vividly. He student taught for three months in a four week and two five week practicums. In the first placement he indicates he was quite successful. He describes it as being a "more nurturing type of environment" (Int. 1, L. 774). However, his second placement was a challenge for him. He states,

> My middle session was really bad. The teacher had said nothing to me, but he went to the principal about half way through and said I wasn't doing a good job... So the principal came to me and said, you've got this many weeks left; you'd better turn it around. It was a devastating experience because I thought I was doing fine. (Int. 1, L. 761-767)

George indicates, in the final three weeks, he was able to improve his planning and his teaching performance and be successful. As he reflects on that difficult time, he says, "You have these crises and they're not a bad thing. They're a good thing, but you look back on them as a turning point" (Int. 1, L. 785-786).

George successfully completed his teacher training and entered the job market at a time when there was a demand for teachers. Initially, he taught as a substitute and then was hired by the public school board in his home community. His first teaching assignment was at the Grade 6 level in a team teaching situation. He remembers, "I worked with two teachers who brought me along, and helped me. They gave me lots of advice and lots of support. It turned out okay but it was a tough year" (Int. 1, L. 911-913). George continued at the Grade 6 level for four years in that school and then transferred to a brand new school within the same board to teach Grade 6. After two years he decided to teach Grade 5 and continued in that assignment until he decided to take a sabbatical leave to return to university for additional education.

George enrolled in a graduate diploma course in language arts. As he says, "I realized, if I was going to teach Language Arts, I was going to have to learn a lot more than I already knew. And there was a lot happening in language arts at that time. I had to fit it together in my own mind" (Int. 1, L. 935-939). During his year at the university he worked in a partnership with a classroom teacher to develop a writing process and adapt a novel study to the language arts program. He remembers that year as being positive. "Excellent! It's so much better going back as a graduate student when you know what you want and what you're looking for" (Int. 1, L. 959-960). He returned the following year to a different school and taught a Grade 5/6 class.

George stayed in the Grade 5/6 assignment for six years and then moved to a school where he became what he termed a "roving teacher." He relieved teachers from their classroom assignments to work with special needs children, taught Grade 2 science and was also 4/10 curriculum coordinator for the school. He then moved on to a new school for two years to teach Grades 5/6 again and act as a curriculum coordinator, without title, for the school.

In his present school he is teaching Grade 5 for half a day and performs the role of assistant principal for the remainder of the time. His teaching assignment is language arts and mathematics.

In his teaching career George has a special affinity for children who experience difficulty in learning. He especially enjoys teaching reading, writing and mathematics, since those were the subjects in which he experienced difficulty as a student. As he says,

> I'm better at it than teaching most of my other subjects. But I often think that I can describe the sick feeling in the pit of your stomach, the fact you can't swallow. I can describe how a child is feeling... So there is an ability to relate that I've always felt is important for helping... I like helping children who are having lots of difficulty and who are really trying hard. (Int. 1, L. 281-290)

George says he brings a caring nurturing approach to his role as a teacher. He believes he places an importance on each child's learning and growth in the classroom setting. He states,

> Children need to be guided, modelled and encouraged to learn. You have to allow children to think for themselves, to make mistakes, and not be on them all the time; not be too critical...We shouldn't give up on children too early. We have to hang in there for them; we have to stay with them. (Int. 1, L. 1037-1043)

When it comes to his role as a teacher, George believes that to aid children in their learning is his prime responsibility. He says, "I try to encourage students to find themselves as learners and encourage that" (Int. 2, l. 197-198).

In situations of voluntary change George indicated to me he is quite open and embraces it. He says,

> I'm somebody who's never really been happy with things being stable. I always seem to be trying to change things. So, I guess I have to be careful because am I changing this for a reason... I tend to move every four years... I tend to realize when you change there's a certain psychology that goes with a new assignment. (Int. 3, L. 295-301)

Change, for George, is seen as inevitable and with that view he believes in meeting any change as a challenge. He states,"If change is inevitable, I want to be involved in it because I want to have a bit of a stamp on it" (Int. 3, L. 320-

322). To illustrate his acceptance of change, four years ago George moved to a new school. He was responsible for ordering new textbooks and materials for the mathematics program and decided to order resources that supported the new Western Protocol Mathematics curriculum. He believed the Alberta government would be implementing the program the following September and George decided to begin the implementation immediately. However, the new mathematics curriculum implementation was delayed for three years.

George discovered the program was a radical departure from what he had previously taught and was much more problem based and promoted the use of manipulatives. He found himself alone teaching a course that did not receive the support of colleagues or many parents. Over the three years, George has persevered in trying to implement the mathematics curriculum. However, he says, "I'm getting tired of teaching a program nobody else is teaching. And I'm doing it because my government, my department of education said to" (Int. 3, L. 724-726). With his experience George has now become the teacher colleagues come to for help when difficulties arise during implementation.

In summary, George's experiences with mandated change elicit the following comment when he encounters new curricula. "My first response to new change is negative. I'm extremely critical of it. Why are we doing it?... Then I start to look at it and see how it's going to impact on my teaching? How is it good for the kids?" (Int. 2, L. 302-309).

Repertory Grid Analysis of George's Beliefs about Teaching

In the week preceding the first interview I met with George to discuss how the Repertory Grid would be conducted. I gave him the criteria for the selection of the elements for most effective and least effective teachers (See

Appendix A). I asked him to review the list of criteria and add or delete any he felt were not applicable to his experiences. I asked George to select the elements, for the first interview date.

Following the first interview George indicated he was able to complete the element elicitation form as it was initially presented to him. However, he was unable to select a least effective division two teacher and this criteria was left blank. He also identified two individuals for the most effective senior high school teacher and two individuals he would most like to emulate. For the Repertory Grid George identified thirteen elements.

Using the triadic method of comparing three of the elements at a time, in random fashion, George identified fourteen bipolar constructs to describe their likenesses and differences. The elements and bipolar constructs were entered on the Repertory Grid form (See Appendix B). I asked George to rate on a 1 to 5 Likert Scale all the elements against all the bipolar constructs following the criteria that 1 represented the most effective category and 5 represented the least effective category. As well, I asked George to rate himself against each of the bipolar constructs.

Between the time of the first and the second interview I entered the elements, bipolar constructs and George's ratings in the *Rep Grid* computer program to gain an understanding of which constructs George valued most for effective teaching. The Rep Grid program indicated that all of the identified constructs were rated at 78% or higher. As a result, I decided to include all of the constructs in the discussions with George in the second interview.

The mathematical calculations in the Rep Grid program placed the bipolar constructs in five loosely linked categories. However, I felt that for the purpose of this research I would acknowledge the groups but explore each construct separately with George.

The following bipolar constructs were identified by George as being important for effective teaching to take place. The construct on the left side of the page indicates the most effective construct and the construct on the right side indicates the least effective construct.

Group 1:	
Knowledgeable of Subject Matter	Poor Knowledge of Subject Matter
Group 2:	
Not Elitist	Elitist
Warm Individual	Cold Individual
Nurturer	Unfeeling
Group 3:	
Respect for Students	Lack of Respect for Students
Instilled Love of Learning	Didn't Instil Love of Learning
Excellent Role Model	Poor Role Model
Ability to Relate	Inability to Relate
Group 4:	
Excellent Problem Solver	Weak Problem Solver
Makes Students Feel Worthwhile	Humiliates Students
Goes the Extra Mile	Won't Go the Extra Mile
Group 5:	
Excellent Presentation Skills	Poor Presentation Skills
Creative & Innovative	Lacks Creativity & Innovativeness
Strong Belief System	Weak Belief System

When George was asked to rate himself against the bipolar constructs, he rated himself as 1 in eight of the bipolar constructs, 2 for five of the bipolar constructs and 3 for one. Table 9 illustrates the ratings.

George's Beliefs about Effective Teaching

The second interview with George was devoted to examining the constructs he identified as being necessary for effective teaching to take place. The interview centred on, when he experienced these constructs in his lifetime, how he tries to perform his role as an effective teacher and what happens to these beliefs when mandated change is introduced.

TABLE 9

GEORGE'S RATINGS OF HIMSELF AS AN EFFECTIVE TEACHER

	1	2	3	4	5	
Knowledgeable of subject matter		*				Poor knowledge of subject matter
Not elitist	*					Elitist
Warm individual		*				Cold individual
Nurturer		*				Unfeeling
Respect for students		*				Lack of respect for students
Instilled love of learning	*					Didn't instil love of learning
Excellent role model	*					Poor role model
Ability to relate	*					Inability to relate
Excellent problem solver	*					Weak problem solver
Makes students feel worthwhile	*					Humiliates students
Goes the extra mile		*				Won't go the extra mile
Excellent presentation skills			*			Poor presentation skills
Creative & innovative	*					Lacks creativity & innovativeness
Strong belief system	*					Weak belief system

* Refers to George's ratings of himself against the bipolar constructs for effective teaching

Knowledge of subject matter was the first construct he identified for effective teaching. George had a great deal of difficulty learning to read as a child. However, when he mastered reading he says, "My top subjects were social studies and science. I excelled at those" (Int. 2, L. 1238-1239). Topics in natural science and ancient history satisfied his quest for knowledge.

Seeking knowledge was also an important activity for both his father and grandfather, both university educated. George spent a great deal of time with his grandfather and states, "He was a very knowledgeable person and knew a lot about a lot of different things. He had a university education which was unusual for farmers at that time" (Int. 2, L. 1256-1259). His father also modelled the importance of seeking knowledge when he completed a masters degree in education.

George also identified some high school and university teachers, as individuals, who modelled the importance of knowledge of subject matter. He remembers his Grade 9 mathematics teacher working diligently with him to ensure he learned all of the concepts. This teacher devoted more time to assist in his quest for mathematical proficiency. George also recalls his high school social studies teacher bringing a personal meaning to the subject. He was involved as an interpreter for the Nuremberg trials at the end of the Second World War and brought a passion to the subject which had a impact on George's knowledge of the subject. He says, "It helped me when I was reading the work, reading the books about that time. I was able to get a clearer picture in my own mind of what was actually taking place. The history actually became alive" (Int. 2, L. 124-127). He also remembers a university psychology professor creating outlines for the class to ensure everyone knew what material was being covered and what was important.

Knowledge of subject matter has been very important to George throughout his career. After six years he wanted to gain more knowledge about how to teach language arts. This led to his return to the university for a year to get a diploma in this area. Today, George continues to seek knowledge that will help him improve his understanding of effective teaching. However, he seeks out books and articles that "tend to talk about education in a human way rather than in an analytical way" (Int. 2, L. 1312-1313).

The second group George identified for effective teaching is not elitist, a warm individual, and a nurturer. Each of these constructs speak to how a teacher establishes relationships. I asked George to define what he meant by a teacher not being elitist. He said elitist people "tend to talk down to people" (Int. 2, L. 437), whereas being not elitist "you have to be inclusive to all children" (Int. 2, L. 443-444).

George indicates he comes from a family that displays an openness and acceptance of others. As he says, "I don't think we've ever been down on other people. There has been a tolerance there" (Int. 2, L. 1331-1333).

However, his belief in being a teacher who believes in being not elitist was challenged in one of his teaching assignments. He remembers his principal wanting to enrol a severely handicapped child in the school and George opposing the action. He argued the child would not benefit from the placement. Since George argued against it from an elitist point of view, he discovered he was in opposition to what he believed as an effective teacher. He recalls, "I really had to look at my values then because I was arguing from a point of view, yet I feel I'm an inclusive person...Yet this was a non-responsive handicapped child, and I had trouble with it" (Int. 2, L. 1369-1372). The child was admitted and George now states it was a good decision in retrospect. Today, George believes he is not elitist in his approach to children. "I think I'm more tolerant of children in school and especially, handicapped children" (Int. 2, L. 1403-1404).

Being a warm individual is the second construct in the second group. He states a warm individual is, "Somebody who can relate to people and somebody who allows people to relate to them" (Int. 2, L. 475-476). He remembers some of his elementary teachers being warm individuals as he struggled to learn to read. "My first few teachers were all warm individuals. Maybe I wouldn't be where I am today if they weren't taking a child who was struggling in school, and helped me along" (Int. 2, L. 1442-1445).

George believes he is a warm individual in his role as a teacher through the use of a smile and a sense of humour. As he says, "The kids have to know that there's humour there...You have to start the morning off with a big smile" (Int. 2, L. 511-522).

Nurturing, to George, is part of being a warm individual. "You're talking about somebody who can care enough about children, that the children know they care about them" (Int. 2, L. 541-543). He adds, "I think nurturing children goes hand in hand with good education, good pedagogy" (Int. 2, L. 563-564).

The third group of constructs of effective teaching beliefs is respect for students, instilling a love of learning, being an excellent role model and having an ability to relate. This group of constructs also deals with the relationship a teacher has with his or her students. I found in my discussions with George the individual constructs were often combined to illustrate how an effective teacher should relate to the individuals. He believes an effective teacher must be a role model for the children, demonstrating respect, a love of learning and an ability to relate to others. He says, "You need to model for children your love of learning and how exciting this is" (Int. 2, L. 716-717).

Part of the modelling process is setting an example of respect. "You talk about respecting the student and what the student is bringing to the class. You're respecting the fact they are learning new things and those new things they're learning are quite amazing" (Int. 2, L. 727-730). Furthermore, George raises the question, "Can I relate to how the students are feeling and how they're progressing?" (Int. 2, L. 910-911). He goes on to say,

> I think you have to be modest enough to allow the children to talk to you, and see how they react. And in that sense, it's okay for the children not to take on your point of view. You have to be open enough that you're going to listen to what they have to say to you. (Int. 3, L. 462-467)

When I asked George to indicate who was his greatest role model, he emphatically stated his father. During his childhood George experienced difficulty in reading and mathematics. His father demonstrated respect for him and instilled a love of learning that helped him overcome major obstacles to learning. He recalls, "I remember him being patient. He was supportive and he showed his concern of how I did. He was always interested in talking about things and making me feel I could rely on him" (Int. 2, L. 25-30).

George also states some of his junior high and high school teachers also were excellent role models who exhibited respect for students, instilled a love of learning and were able to relate to him. For example, he describes his Grade 9 mathematics and science teacher in this way. "He had a very quiet way about him... He created an interest in the subject... He was able to maintain order in difficult classes and, as a result, the classes were more fruitful for the people taking part" (Int. 2, L. 132-141).

Modelling the role of a teacher for students is crucial to George's approach to teaching. He believes children should perform the role of teacher, which helps him determine whether learning has taken place. Assuming the role of teacher also builds confidence in the children and this is George's way of encouraging students to be leaders in their own class and to also become role models for their peers. Through this approach he hopes to develop what he calls "independent learners." He says,

> An independent learner is someone who takes over, takes responsibility for their own learning and is willing to challenge himself or herself. I developed this a number of years ago by looking at what are the characteristics of my best students. And a characteristic of my best students is, I didn't have to tell them to do more, they did more... I believe developing independent learners is one of my goals. (Int. 2, L. 836-847)

The third group of effective teaching beliefs George identified is an excellent problem solver, makes students feel worthwhile and goes the extra mile. I asked George to elaborate on what he meant by effective teachers being excellent problem solvers. He stated,

> They look at a variety of ways to solve a problem, and not just one. So, you're looking at choices. You're looking at the way your children respond to choices... We get these teachable moments and I think if you're a problem solver, you can take more advantage of these teachable moments... If you're a problem solver then you teach your children to be problem solvers. It goes back to modelling. (Int. 2, L. 979-1002)

The second construct in the group is making children feel worthwhile. Referring to his students George states, "I believe that what they're doing is important and their ideas are important. You're valuing them as people and showing you value them" (Int. 4, L. 893-896). George felt he was valued as a child and he believes effective teachers should do the same for their students.

Going the extra mile is a construct which George valued in his father. He remembers, "He never builds anything with two nails; my dad would put in ten. Meticulous! If the job is not done right, then let's do it over again. I would say that that had an influence" (Int. 2, L. 1578-1582). George also learned during his youth that job perfection was expected in the workplace. He still remembers his personal feelings did not matter to the management. The job being done properly was the only thing that mattered. "I once had to clean a washroom seven times because it wasn't perfect. I had no idea how to clean a bathroom and it took me seven times to learn" (Int. 2, L. 1605-1607).

George prefers to emulate how one of his mathematics teachers went the extra mile for his students. If the child was having difficulty but was not giving up, he would spend as much time as necessary to help him or her. He says, "It's part of showing you care for the whole child and the time factor is part of it" (Int. 2, L. 1034-1035).

The final group of constructs of effective teaching beliefs is having excellent presentation skills, being creative and innovative and having a strong belief system. I asked George what he meant by excellent presentation skills. He states, "I guess you're a salesman... I think that's what you are 90% of the time. You're trying to get people to buy into the process of learning" (Int. 2, L. 1077-1084). He goes on to use the metaphor of packaging to illustrate how he performs his role as an effective teacher. "There's just different ways of packaging things so they're more saleable. And if you sell something in a package that seems like it's full of pain, as opposed to one that's full of surprises; that might challenge you" (Int. 2, L. 1092-1095).

Having excellent presentation skills was important to George even as a child. He says, "I think very young I liked being a little bit of a showman. It was something that was fairly natural. Again, my father tends to be a bit of that, too" (Int. 2, L. 1661-1664). During his own education George identified several teachers who had excellent presentation skills. These include his junior high mathematics and science teacher, his high school social studies teacher and his university psychology professor. I previously discussed how George believes each of these teachers were effective teachers for him. According to George, the sum of the effective teaching constructs he identified previously contributed to their excellent presentation skills.

George also believes it is important to teach children to learn excellent presentation skills, part of the role modelling discussed previously. He believes children should be able to complete a task or experiment and then bring it back to the rest of the class in the form of a presentation. Once again, the children become teachers.

The second construct in the group is being creative and innovative. He describes this construct as follows. "It just goes back to the number of ways in which you can present, and it goes back to packaging, and presentation skills" (Int. 2, L. 1104-1105). "I've always had the ability to be creative" (Int. 2, L. 1678-

1679). He also recalls his parents liked creativity and inspired him. "They encouraged it. They bought us those paint by numbers, and we had different projects. We were getting rocks and you had to glue all those rocks on to form a mosaic and did lots of things like that" (Int. 2, L. 1694-1698). George tries to bring creativity and innovativeness to his practice. He says, "I like innovation. I like trying new things. I like things when they're hopping" (Int. 4, L. 963-966).

The final construct, a strong belief system, according to George, should be number one instead of number fourteen. I asked George to explain what he meant by having a strong belief system.

> It's sort of a huge thing because it encompasses a lot. It's what you are as a professional. It's what you are as a person that combines them. What are your ethics? What are your morals? From an educational point of view, how do you believe learning should take place? Once you have that belief system, what's that going to allow the students to do in your class? (Int. 2, L. 1143-1152)

George indicates he has a strong belief system when it comes to teaching children. He states,.

> I free my children up. That doesn't mean I allow them to be undisciplined. They get a taste of what freedom of learning is all about. They are supposed to accept responsibility... So, my belief system has sort of evolved through my teaching. I think you can see it run through my math, my language arts where the children are hands on. They relate to real life experiences. This goes back to my own schooling. I really got frustrated because I felt the way teachers were made to teach was hypothetical. It was almost impossible for people to relate to it. (Int. 2, L. 1163-1178)

George indicates his belief that the importance of having a strong belief system originated with his father. "He has a very, very strong belief system; church, the whole nine yards... He always said, 'I don't care what you believe in, but you'd better believe in something'" (Int. 2, L. 1703-1707).

George says a strong belief system aided him throughout his life and helped him during the difficult experiences. He recalls, "There's really negative things that have impacted me. The ones that made me feel the most uncomfortable are the ones that have had the greatest effect on me" (Int. 3, L. 95-98).

In conclusion, George believes it is vital for all teachers to have a strong belief system if they are to be effective.

> It doesn't really matter what type of teacher you are, but you have to be good at what you do. You have to be able to say, that's going to work for me, or that's not going to work for me, and how am I going to make it work for me. So, I think you can't do that if you don't have that belief system. (Int. 3, L. 536-541)

Repertory Grid Analysis of George's Beliefs about Change

Following the first interview I gave George the sample element elicitation criteria used by previous participants for change (See Appendix C). I asked him to consider individuals who would meet those criteria and enter their names on the elicitation form prior to the second interview. I also asked him to add or delete any elements he felt would be more relevant to his situation. I informed him, as well, we would be developing the bipolar constructs, using these elements, at our next interview.

After the second recorded interview was completed, I asked George to discuss the elements he selected for individuals who embraced or resisted change. He indicated he was able, with some thought, to complete the fourteen criteria listed on the element elicitation form. George stated, as well, he did not feel it was necessary to add or delete any criteria.

Using the triadic method, George compared the elements in groups of three and established fifteen bipolar constructs he felt addressed the issue of characteristics the individuals displayed in change situations. Following the establishment of the bipolar constructs, I asked George to rate, using a 1 - 5 Likert Scale, all of the elements against the bipolar constructs of change. I also asked George to rate himself against each of the bipolar constructs.

Between the second and third interview I entered the information on the elements and bipolar constructs, plus the ratings data, into the *Rep Grid* computer program and printed out a report to illustrate the order of importance of the bipolar constructs and their groupings. The following list of bipolar constructs illustrate these groupings with the constructs embracing change on the left side of the page and their polar opposites listed on the right hand side of the page.

Group 1:	
Modest	Egotistical
Problem Solver	Not a Problem Solver
Inspiring	Uninspiring
Optimistic	Pessimistic
Group 2:	
Excited	Reluctant
Non Traditional	Traditional
Risk Taker	Not a Risk Taker
Innovative	Not Innovative
Group 3:	
Plans for Change	Resists Change
Acceptance of New Ideas	Resistant to New Ideas
Secure	Insecure
Group 4:	
Not Cynical	Cynical
Good Listener	Poor Listener
Open Minded	Closed Minded
Group 5:	
Strong Leader	Weak Leader

The computer report indicated the entire fifteen constructs received ratings greater than 80%. I decided all of the constructs would be discussed in our third interview. The report also indicated George rated himself below eight other individuals, for embracing change. Even so, he still rated himself as a 1 or a 2 for all constructs, indicating he embraces change. Table 10 indicates the rating George assigned to himself.

To explore George's beliefs about change in more detail I asked him in the third interview to discuss why he selected the individuals for the elements and the influence each had in his life. I also asked George to indicate how each of the identified constructs had an impact on his life as child and during his career. I also asked George to indicate how he handles mandated change when he considers each of the constructs.

TABLE 10

GEORGE'S RATINGS OF HIMSELF IN BELIEFS ABOUT CHANGE

	1	2	3	4	5	
Modest		*				Egotistical
Problem Solver		*				Not a Problem Solver
Inspiring		*				Uninspiring
Optimistic	*					Pessimistic
Excited	*					Reluctant
Non Traditional	*					Traditional
Risk Taker	*					Not a Risk Taker
Innovative	*					Not Innovative
Plans for Change	*					Resists Change
Acceptance of New Ideas		*				Resistant to New Ideas
Secure		*				Insecure
Not Cynical		*				Cynical
Good Listener		*				Poor Listener
Open Minded		*				Closed Minded
Strong Leader		*				Weak Leader

* Refers to George's rating of himself against the bipolar constructs of change.

George's Beliefs about Mandated Change

George grew up in a home that embraced change and he refers to his childhood as being "very secure." Concerning his parents he says,

> I think my dad was very excited about change. He was always trying new things. My mom came over from Scotland as a war bride, so she obviously was willing to take risks. I think my dad was always a non-traditional type of teacher. He was always looking at different ways of teaching things. (Int. 3, L. 1318-1323)

Since change has been a positive part of George's life, his comments concerning each of the constructs may reflect his home influence.

The first group of constructs George identified for those who embrace change consist of being modest, being a problem solver, one who inspires and being optimistic. He attributes the need for modesty to his family and his culture. He says, "We were encouraged to be proud of what we did achieve, but we weren't supposed to brag about things... Pennsylvania Dutch are not trying to always push themselves out. With the Scottish, the clan is important, not the individual" (Int. 3, L. 1145-1161).

During his career George tried to bring modesty to his role as a teacher and a colleague. As he says, "You have to be able to allow other people to take credit" (Int. 3, L. 383). In the classroom George tries to ensure the children are part of the teaching and learning process.

> I think you have to be modest enough to allow the children to talk to you, to see how they react to it. And in that sense, it's okay for the children not to take on your view of it. You have to be open enough that you're going to listen to what they have to say to you so you can effect change. (Int. 3, L. 462-468)

The construct of problem solving is also strongly influenced by George's father, who he describes as having a strong philosophy for life. "My father's philosophy comes into being there. What can you learn from that situation? So, I think he created an environment where I feel comfortable trying different things." (Int. 3, L. 98-103). George indicates, as a child, he loved to problem solve. "I remember, even as a boy, putting together equipment that came into the house for my mother" (Int. 3, L. 1197-1198).

George recalls some individuals aided him in the area of problem solving. He remembers a principal who helped him problem solve an organizational difficulty with portfolios. He also indicates he worked with another individual who helped him learn problem solving skills. "He has a very practical mind, so he's able to make things a lot more simple... I appreciate somebody like that who can organize it. I'm much more of a divergent thinker. He's more of a convergent thinker" (Int. 3, L. 69-85).

When it comes to change George says,

> When you go out to change something, you're not really sure what you're going to get. So, you have to be able to put it into perspective and say, is that a positive thing that's happening, or a negative thing that's happening? And if it's a negative thing, how am I going to modify it so it can become positive? (Int. 3. L. 111-120)

Being able to inspire others is the third construct in the group. George says, "If you can't get people to buy what you want, or to get enthusiastic about what you're doing, you're not going to carry your plan very far" (Int. 3, L. 433-435). He adds, he is not sure how much of the quality to inspire he has himself. In the classroom George also equates the ability to inspire to being a salesperson. "When you can get kids excited about learning, it's a sales game" (Int. 3, L. 504-505). He goes on to add, "If you're not excited about it, if you haven't bought into this, you're not going to be selling this to the kids" (Int. 3, L. 511-514).

George indicates he would not have the education or the career he has today without his father's inspiration. Whenever he had difficulty with school work, his father encouraged him and helped him learn the material. He also credits some of his teachers in junior high and high school for offering encouragement and listening to him.

Being optimistic is a construct George believes is vital in the change process. "I think you have to be optimistic when you're in a change process, where you think, this isn't going to turn out... You have to be able to see the big picture rather than just the little bit" (Int. 3, L. 446-450). In the classroom George describes how he displays his optimism for the children. "It goes into the coaching and the cheerleading stage. You have to be optimistic the kids will eventually get this. And you have to be able to convince them to be optimistic about it" (Int. 3, L. 520-524).

Once again, George gives the credit to his parents for encouraging him to have an optimistic attitude. He also believes he was especially blessed by the period of time in which he was raised.

> I grew up at a time or period where we didn't have a lot of wars, or things like that. I think it was easier to be optimistic. Things were fairly successful. I think now it's a little bit harder to be optimistic than it was when I was growing up. When I was growing up, it wasn't a case of whether you'd get a job or not, but when did you want to start work. (Int. 3, L. 1279-1286)

George indicates the fifth construct, being excited, is closely related to being optimistic. Being excited, for George, means showing he cares. The use of body language is also an important facet of how he conveys this feeling to the children. As he says, "You don't want to give them that bored look" (Int. 3, L. 666).

From a teaching point of view I asked George what he meant by the construct, non traditional. He states,

> For a while we were just feeding the knowledge in. That's what I consider a traditional approach. Non traditional is where we are going back to the Greek philosophers and their view.. The non traditional is a very old way of teaching that was very effective. That's a discovery approach as opposed to a spoon feeding approach. (Int. 3, L. 562-570)

George considers himself to be a non traditional teacher. He endorses a discovery approach to learning since that was how he learned most effectively. He describes himself as a tactile learner and appreciated teachers, such as his high school biology teacher, who gave him choices and taught in a non traditional way. George also believes embracing change is part of his non traditional approach to teaching. He says, "I'm somebody who's never really been happy with things being stable. I always seem to be trying to change things. So, I guess I have to be careful because am I changing this for a reason, or am I changing it just because I want change?" (Int. 3, L. 295-299).

George approaches the implementation of a new program in the following manner.

> If you are going to bring in new material, you have to be able to say, for awhile I'm going to let go of everything and I'm just going to flow with this material. It's a very uncomfortable feeling. How do I know the kids are actually learning? That's the toughest thing for me. When I first started using the new math program, I found this is a non traditional type of approach, a self discovery type of approach. I wasn't taught this way. (Int. 3, L. 595-604)

Risk taking is also closely related to the non traditional approach and George believes it is found not just in change situations but also in learning. "Learning is a risk activity and when we're teaching we need to understand that the child is taking risks" (Int. 2, L. 711-712).

In implementing mandated change, George indicates both the teacher and the children are exposed to risk and it must be treated as a positive experience even though there may be some discomfort. He says, "If you're implementing a program, you've got to be willing to take risks. This goes back to the fact you've got to let some things go" (Int. 3, L. 592-595).

Being a risk taker was encouraged by his parents and was lived out in their lives. George recalls, "My father was always a risk taker. I would ask, 'Why did you do that?' He would say, 'It just seemed like a good idea at the time.' I think it's a good expression and it's one of my favourites" (Int. 3, L.

1340-1345).

The fourth construct in the group is innovative which is also one of George's beliefs for effective teaching. In implementing a new curriculum he states,

> When you're teaching one program for a long time, you learn certain strategies that work. When you're teaching a new program, you have to be able to be innovative enough to pick up how to use this program. So, you have to use the basics but you're going to have to build your repertoire again of what you do to get the kids to understand what you wanted them to do. (Int. 3, L. 778-784)

He also indicates problem solving is part of being innovative and there is more than one approach to teaching a particular topic. Furthermore, as George points out, there are often more than one answer to problems in a discovery based curriculum such as in the new mathematics and science.

In planning for change George believes certain steps must be followed for a successful implementation. First of all, "It's setting what we hope to achieve and if we don't know what we're going to achieve, how are we going to achieve it, and how are we going to know we achieved it? (Int. 3, L. 800-803). George indicates a plan for change must be based on an individual's belief system. In change he states, "You attach things to that belief system that fit together. They fit into that belief system. So you say, yes or I don't really believe that, so I can't use that. It makes the change you're doing a lot easier because you're doing it from a vehicle rather than just floating around aimlessly" (Int. 3, L. 165-171).

In the classroom George indicates his plan for the new mathematics program must be be flexible enough to allow for innovation but must include a knowledge of what he is trying to achieve. He says, "What I'm really trying to achieve is problem solving on the part of the children and independent thinking" (Int. 3, L. 825-827).

Once again, George attributes the importance of planning to his parents. He recalls there was a fair amount of planning and structure in his family during his youth. Concerning his father he adds. "he tended to do things for a reason, and I think that's how we were taught" (Int. 3, L. 1385-1386).

George also believes one must have an acceptance of new ideas for effective change to take place. He stresses the importance of relationships and the sharing of ideas as being important. He says,

> I think if you want to bring about change and you want that change to be important, people have to be all headed in the same direction. You don't always have to be using the same vehicle to get there but we have to know what we want to achieve... I think people need to know where they're going, and you have to be able to communicate that to them. (Int. 3, L. 249-263)

George remembers his father as being open to other people's ideas. He recalls his father would attentively listen to these presentations and might or might not follow their suggestions. However, George says he was always open to a better way of completing something.

George also believes one must feel secure in implementing change. He says, "Again, it comes back to your belief system. If you don't have a strong belief system, it's very difficult. So, you have to be secure in what you believe" (Int. 3, L. 906-908). In implementing the new mathematics curriculum George feels quite secure and he attributes this feeling to his belief children learn best through a discovery and problem based approach. His belief system and the philosophy of the mathematics program are compatible and leads to that sense of security.

While George felt a sense of security in the home, as he grew up, he did not have that sense in elementary school. As a result, he wants to ensure his students experience a secure environment for their learning. He says, "I could certainly relate to kids who were having difficulties, and that's always been a strength of mine. I work better with children who are having a difficult time of it" (Int. 3, L. 1470-1473).

The fourth group of constructs George identified is not cynical, a good listener and open minded. He believes the three are related quite closely and his comments reflect this. He says,

> You have to be open minded. You have to be willing to give things a chance and you can't be critical in a negative sense...You have to really be attuned to what is happening,what people are saying to you and how they're responding to it. Because you're involved in the change sometimes you only hear what you want to hear. You have to be able to hear the other aspects, and realize they may impact on you. (Int. 3, L. 919-929)

George has a concern about cynicism among children, because he was cynical about his own education. However, his parents certainly did not condone it in the home. He says,

> You really have to fight against cynicism... If I go into the classroom and I'm cynical, those kids are going to pick it up, and we're not going anywhere... So, you have to be positive and not let outside influences affect you. (Int. 4, L. 1289-1294)

Furthermore, George believes children should know why they are learning something and this in turn will eliminate cynicism.

When George encounters a change initiative, he tries to have an open and positive mind. In recent years he presents the change to an acquaintance, who he values for his good judgement and supportiveness. As he says, "When I want to bring about change, I often will have him consider it. Then he will indicate whether it is a good idea. I like to listen very carefully to what he's saying... We try to play off each other a bit" (Int. 3, L. 56-63). Being open to the opinions of others enables George to move ahead with change in a positive manner.

Being open minded and open to change is something George believes has developed throughout his career. He states, "I think I've become more open to ideas... Now, with change, I tend to look more at how does this go back to my belief system? And, if it doesn't, how am I going to rationalize it" (Int. 3, L. 1636-1644).

The final construct George identified for change is being a strong leader. I asked him what he meant by being a strong leader. Initially, he indicated a strong leader embodies all of the constructs of change we discussed previously. He added metaphorically, "You have to be a strong enough leader to let people do their own thing, yet a strong enough leader to know when to push, know when to fold them and know when to hold them, that's very important" (Int. 4, L. 1345-1348).

George cites several individuals, including his father and several principals he has worked for, in helping him develop his own philosophy of leadership. Now, he says,

> I am more of a coach in the sense that I'm not trying to bring people over. I'm trying to get them to work with the team, and develop the skills. I'm not somebody who'll come in and say, you have to do it this way... If you're bringing in curriculum, you have to give people an opportunity to see how the things they're working with are going to impact on what they do. (Int. 3, L. 211-222)

George believes, "A strong leader is also a good follower. He allows other people to take on a leadership role. So, you are delegating; you're giving responsibility to other people" (Int. 3, L. 1018-1023).

He further believes strong leadership must be a part of every teacher's performance of his or her duties. As well, George tries to develop strong leadership skills in his students. "I think you're always trying to get your kids to accept more responsibility. I call that being an independent learner. You can work by yourself. You can work in a group. You know how to acquire information" (Int. 3, L. 1032-1035).

Finally, George views a strong leader in the following way. "I see it as taking away roadblocks, and if you're leading in the classroom, you're taking away roadblocks that interfere with learning" (Int. 3, L. 1696-1698).

In the second interview George discussed his beliefs about effective teaching when he encounters mandated change. I will briefly consider the five groups of constructs of effective teaching beliefs within that context. George does not view knowledge of subject matter in the sense he must gain background knowledge of the subject prior to introducing a new program. Much of his knowledge comes from observing the children interacting with the new material. He says, "You have to be willing to learn as you go, and so, a lot of knowledge you're picking up is from the kids themselves. So, as you move through the change process your knowledge is growing all the time... The children are teaching you" (Int. 4, L. 767-773).

For the second group which consists of being not elitist, a warm individual and a nurturer, change can pose a certain amount of instability in the class and curtail a safe learning environment.

> This come down to the risk taking environment. You have to let the children realize that it's okay, it's comfortable, you're doing fine, keep practising, keep working, because at first it's just a real difficulty for them. So, you really have to try to be that warm and understanding person, and a nurturer. (Int. 4, L. 789-794)

The third group of constructs is respect for students, instil a love of learning, being an excellent role model and have an ability to relate. George indicates he must establish a relationship with his students that encompasses all of these constructs when he implements a new program, such as the Western Canadian Protocol Mathematics. He says, "You have to have the respect of the students to get them to trust you. So, you're going to have to give them the respect that they are problem solvers, they are learners, they are teachers. You're going to have to respect the students to get them to take a chance" (Int. 4, L. 803-809).

For the third group of constructs George stresses the importance of relationships a teacher develops with their students to create an environment which permits change to take place. He says we should be,

> Making students feel worthwhile even though we're in the process of change. The students should always be the primary focus. Sometimes, when we're in change, we have to go that extra mile more than we would normally. So, you have to make sure the safety nets are in place, so nobody's falling through the cracks. (Int, 2, L. 1056-1062)

The fifth group, excellent presentation skills, being creative and innovative and a strong belief system are extremely important to George in a change situation. He states, "You look at the change in relation to your belief system; that allows your presentation skills, and your creativity and innovativeness to take place. But it's got to come through the belief system first" (Int. 2, L. 1204-1207).

In conclusion, George cannot stress too strongly the importance of a strong belief system in implementing mandated change. He states,

> Your strong belief system is probably the key there, in the sense you've got to see how this change is going to impact on your belief system. If you don't believe something, it makes it difficult to teach it. So, you're going to have to adjust your belief system so it becomes compatible, or you're going to have to say, I can't teach it that way. (Int. 2, L. 1193-1198)

Implementing New Curricula

George is expected by Alberta Education to be in the first year of the implementation of the Western Canadian Protocol Mathematics program for his Grade 6 class. However, George is really in the third year of the implementation process. He was aware the Alberta government was planning to introduce a new mathematics program for Grades 1 to 9 and the circumstances in which he found himself made it seem logical to immediately begin the implementation. He describes it in this way.

> There was a change coming in the curriculum anyway and the government said it was going to be next year. We were opening a brand new school and we needed to order math texts... So we ordered the text that went with the program, had some manipulatives, no in-servicing, and sort of learned it by the seat of our pants. (Int. 4, L. 11-21)

However, George discovered he had little support in implementing the new program. Only the other Grade 6 teacher joined him. The rest of the teachers in the school decided to continue to teach the former program.

Furthermore, the Alberta Government delayed the implementation, first for one year and then for a second year. This left George isolated in his efforts to introduce the new mathematics program. He says, "It was frustrating because we were trying to anticipate what they were going to do, and they kept on leaving us hanging out to dry with the curriculum... I saw what they were trying to do was good" (Int. 4, L. 34-45).

I asked George how much the draft document he initially implemented was changed from the present one. He stated there was no significant change. I further asked him to indicate how much difference he sees between the old program and the present curriculum. He says, "With this new math curriculum it's such a different philosophy. It's a philosophy I agree with. I found out it's not compatible with the old math textbooks" (Int. 2, L. 365-368). George goes on to discuss the specific differences he sees in the new curriculum.

> You're forced to do more problem solving, more estimation, more thinking in your head, less computation for the sake of computation. Most units start with a concrete base where you're working with manipulatives, they're going to be seeing pictures of in the book later on. Then the pictures move into symbols. You're doing a definite concrete pictorial abstract. And by the end of the unit the kids are

> working primarily with the abstract. It's more of a math laboratory type of setting and you're teaching math more as a science. (Int. 4, L. 80-91)

George goes on to indicate the curriculum promotes divergent thinking as opposed to the former approach that promoted convergent thinking. As well, he states the program builds on previously learned material, tying together previous learning to new knowledge.

> When you start with a unit and you move through the book, everything you taught before is used again to develop the next unit. All the skills that you learn, you can use to solve problems all the way through. You're constantly reviewing and constantly hitting this problem again and using it in a different way. There's always that same pattern for the kids. (Int. 4, L. 230-237)

Successful implementation, George states, depends entirely on how a teacher believes mathematics should be taught. This goes back to his effective teaching construct a teacher must have a strong belief system. "You have to go back to what you value and what you believe, and you respond to it within those values and beliefs" (Int. 3, L. 682-683). Since he believes children learn more effectively with manipulatives and problem solving techniques, this program fits into his belief system. However, he states, this may be a problem for other teachers who do not have those beliefs.

George found that to be the case over the past three years. Most of the teachers, who teach the children he will receive the following year, did not teach the new program. As a result, he indicates his frustration.

> I'm almost teaching a program in a void. The kids come to me and I have to teach them all the concepts... I have to teach these kids how to use these materials, what these materials mean, the concrete, the concrete pictorial abstract stage, and it makes it a very frustrating experience because the kids move so slow. (Int. 4, L. 355-362)

Since George has taught the mathematics curriculum for two and a half years, I asked him to compare the first year implementation with how he taught it in subsequent years. He stated in the first year he taught it in bits and evaluated his lessons on the response he received from the children. In the second year he began to modify his lessons to reflect what he learned from his first year experiences. He says,

> You begin to work with it and the little blocks begin to slide into place. You seem more organized with more and more instruction. I know what's going to happen. I knew what happened last time, so, we're going to do it this way instead of that way. You're always reflecting on a better approach. (Int. 2, L. 664-669)

The only problem George raised concerning the curriculum is the lack of attention that is paid to teaching this program to a split grade class. With the emphasis on a more hands on approach to teaching he questions how a teacher can teach two separate curricula of this design in the same classroom. He adds, "For split classes we're not getting the support from the community, often the school administrator, the school board and you're not getting it from the department of education... That's a fatal flaw and nobody wants to deal with it" (Int. 4, L. 657-664).

In conclusion, George indicates he is becoming more successful in implementing the new mathematics program in the third year. He states,

> As you start to get the flow and the pace of what they're trying to do, it moves faster and faster. When you start to realize how this is done, you know what's in the guidebook, and you've done this once or twice. You know what types of problems are going to be, so, you can anticipate things, so things speed up...It's a growing experience all the way through. (Int. 4, L. 725-734)

Overview of the Fourth Participant

Two themes stand out as being of great importance to George throughout his life. The first is his belief in learning through relationships with other individuals. The second is his belief in having a strong belief system. In the four interviews I conducted with George, he attributed both of these themes to the influence of his parents and other significant people during his life.

The importance of learning through relationships began as a child, when he spent many hours alone with his mother in discussion, as he sought new knowledge. He also remembers learning about farm life in their frequent visits to his grandfather's farm. As well, growing up in a strong Christian family shaped his views about what the family valued. For example, communication among family and friends was highly valued. George remembers the family relationships stressed love, warmth, nurturing and positive attitudes. Hard work based on the Protestant work ethic was to be rewarded.

However, school did not provide a safe and secure place for George. Initially, he had to adapt to confining conditions, to which he was not accustomed, and was severely disciplined when he did not. George indicates his parents and a nurturing Grade 1 teacher helped him adjust and become positive towards education. He remembers the hours his parents read to him and helped him develop his own reading skills. They continuously stressed the importance of learning and being positive in a very difficult situation. Without their guidance George does not think he would be a teacher today.

While George states the school environment, after the first year, was not negative towards him, he felt quite lonely during those elementary years. He had few friends as he never felt part of his peer group. It was not until he was in junior high and high school he finally developed peer relationships. He realized, if he wanted to be part of the group, he had to push himself forward and participate. Others were not going to try to draw him into activities. He had to do this on his own initiative.

George also discovered, during these years, he was becoming more successful in various subjects. With the help of his father, his mathematics marks improved dramatically. His enjoyment of school increased in subjects where the teacher took an interest in him, was approachable, promoted project work and encouraged going beyond in learning. With success in high school his parents expected him to get a university education.

With the help of both parents he did succeed in the first year of the bachelor of science program. However, without a purpose for the science degree, he dropped out of university for a year. For his second year he followed the suggestion of his father to enter education. With a definite goal in place George went on to successfully complete his courses in a bachelor of education program.

The importance of learning through relationships were very important during his practicum experience. He was in three placements over a three month period. The first placement proved to be quite successful, as he was encouraged to try creative methods of teaching. However, his second placement became most challenging. He assumed he was being successful until the principal informed him three weeks before the end he was not succeeding. George realized his philosophy of teaching was running counter to the cooperating teacher's approach. He indicates he learned a valuable lesson in communication and meeting the expectations of others who do not agree with your views.

George also states he learned this same lesson when he worked at the grocery store and in the building materials job. He remembers his boss was always right and his own opinions were often not valued. He also remembers the boss who called him every abusive name he could think of and George had to appear stoic. Learning how to work with difficult people has been a valuable learning experience for George.

He also cites the importance of learning through relationships with colleagues when he began teaching. His first placement was in a team teaching situation and he says he learned a great deal from those two individuals about effective teaching. After six years he took a sabbatical to return to university and seek knowledge in teaching language arts. Once again, George learned how to teach the writing process in a partnership with another experienced teacher. When he contemplates a change initiative, he relies on the counsel of another colleague, who he considers a change agent, to discuss the programs. George indicates he is a divergent thinker and he needs to discuss his views on implementing a new program with individuals who are convergent thinkers. With that perspective plus his own he believes he can proceed with the implementation process.

In the classroom George believes he must establish for the children a safe and risk free environment. He considers it essential for effective learning to take place. He believes he is performing his role, more as a coach, who guides his students to become independent learners. To enable this approach George creates a learning environment, where the children can learn from him, but he also can learn from them. One approach he takes is to give the control of the class to the children and let them be the teachers who instruct him. As a result, his program is constantly modified by the response of the children to the material he is presenting to them.

Implementing a new curriculum is approached in small sections. Rather than reading the background material, George prefers to teach the new material and gauge its success or failure according to the reaction of the children. He says he prefers to "flow with the material" and not prejudge whether it is positive or negative. After the children's responses he discusses the lesson with colleagues, completes the background reading and plans the modifications he will use the next time.

Implementing the new mathematics curriculum has led to some frustration. For three years George implemented the course but he often feels isolated as few teachers have even started the process. As well, he indicates he has yet to teach a group of children who have the background experience in working on problem solving and doing group work. As a result, each year seems to him as a first year of the implementation. He has gained knowledge in how to teach the program but the students he receives in Grade 6 have not.

The second theme is a strong belief system, a theme George attributes to his father. He remembers his father telling him, "I don't care what you believe in but you'd better believe in something." He taught him to value other people, with the group being more important than the individual. His father also taught him to be a problem solver who could see more than one solution and more than one answer. George also mentions his father influenced his approach to change.

George's belief in a hands on, discovery approach to learning came from his own difficulties in learning to read and complete mathematical questions. He says he is a tactile learner and topics in school which allowed him to learn in this way brought him satisfaction. He identifies the project work in his elementary years and biology in high school as examples.

George has an empathy for any child who has difficulty learning. He believes a teacher should never give up on a child who has difficulty learning but is prepared to make an effort. As a result, George prefers to teach the subjects he had difficulty learning himself. He wants to ensure children, like himself, will always get an excellent education and receive the help they need.

In change George believes it must be built around his belief system. For example, when he is presented with a mandated change initiative he analyses it to determine if it fits in with his belief system. If it does then few modifications are needed. If the change runs counter to his belief system, he will modify to get it to fit. George indicates he sees change in positives and negatives. His aim is to turn the negatives into positives. As a result, he says he puts his belief system on hold and "flows with the material" until he reflects on the outcomes. Modifications are then made to turn a negative experience into a positive one. In this way, George indicates, he does not believe any program he tries to implement cannot be adapted to his belief system.

In conclusion, George relies very strongly on others to aid him in the learning process and his strong belief system is the "vehicle" he uses to perform his role as a teacher.

CHAPTER V

THEMES ARISING FROM THE INDIVIDUAL INTERVIEWS

Effective Teaching Beliefs Influenced by Relationships

From the analysis of the interviews with the participants there seemed to be a relationship between the beliefs each teacher held for effective teaching and individuals who influenced him or her over his or her lifetime. The beliefs about effective teaching were influenced by parents, family, teachers, colleagues and principals. To understand how relationships influence these beliefs I examined the data collected from the interviews with each participant.

While Helene's effective teaching beliefs were not the prime focus in the pilot study, I observed relationships with her parents, sister, and colleagues that influenced her effective teaching beliefs. She indicated her parents established a stable, predictable home environment in which to grow. However, in school, her accelerated program made her feel unstable and unpredictable. The need for stability and predictability is very important to Helene and she endeavours to ensure her students have a school environment that is safe and predictable.

In her first year of university in Virginia her sister's presence gave her a feeling of stability, as it was her first year living away from home.

When she began her teaching career she team taught with another kindergarten teacher. She states many of her beliefs about effective teaching for early primary originated from that relationship. Hence, she tried throughout her career to maintain collaborative relationships with other colleagues and this aided her in developing the beliefs she holds today for effective teaching.

Joanne's effective teaching beliefs are strongly influenced by relationships she identifies in the interviews. The first is the close relationship she has with her mother. Joanne says she would not be a teacher if her mother had not strongly encouraged her. She says her mother modelled the role of the effective teacher. She modelled such things as patience, warmth, motivation, seeking knowledge and making the knowledge meaningful. Her mother also encouraged her to minor in computers in university. Today she is the computer mentor for her school.

Joanne remembers her Biology teacher who encouraged learning through extensive reading and hands on experiments. She says she learns best when she moves from the concrete to the abstract. Hence, she believes her students should be taught in a similar fashion.

In her B.Ed. practicum program, her effective teaching beliefs were influenced by two cooperating teachers who encouraged her to experiment and innovate in a risk free environment. Having fun learning is a belief Joanne has adopted and she tries to ensure her students enjoy their experiences in her class.

Finally, Joanne indicates she views the schools in which she taught as being like families. She has a close relationship with her own family and believes teachers and students in schools should establish similar relationships.

Ruth has experienced the hardships of being a refugee and immigrant to Canada. An education was of paramount importance to her parents. Her father was a university educated person who could not work in his chosen field. Hence, Ruth was expected to obtain a university education and find employment to support herself. Knowledge was important in the family as both her mother and father modelled the importance of seeking it.

Ruth indicates her most effective teachers instilled a love of learning and made learning exciting for her. Today she tries to do the same for her students. As well, seeking knowledge alone is not sufficient. Ruth believes learning must always be seeking for higher levels of knowledge.

When she entered the teaching profession, Ruth states she was not prepared for her role. She believed all children are seekers of knowledge. She learned the knowledge she was supposed to teach was not the knowledge her students wanted to learn. She struggled in her first year to redefine her effective teaching beliefs. She was aided by discussions and observations of how other teachers in the pod taught their students.

Ruth indicates many of her effective teaching beliefs were formed from her relationships with students over the years. She firmly believes she must meet the learning needs of each of her students. She has a love for students and a love for life which she tries to convey to her students. Through a process of constantly analysing her students' performances, she tries to be an effective teacher for each child. This leads her to state her ability to be an effective teacher varies from moment to moment, hour to hour and day to day.

Gino's parents modelled the importance of knowledge by taking him to the library each week and by helping him understand history through frequent museum visits. As well, he learned consistency and preparedness from his parents. These became effective teaching beliefs for Gino when he started teaching in a behaviour modification class.

Gino remembers his effective teachers as being very knowledgeable about their subjects and as making learning interesting through hands on activities, debates and research projects. He also mentions the principal when he was in Grade 6 exposing him to anything he wanted to learn in Science. He remembers another teacher who brought a passion to her class through her integration of the arts. In his Grade 8 year he was excited by the teacher who challenged him to learn beyond the prescribed curriculum.

In his teaching career Gino remembers the importance of meeting the needs of Native children in school instead of ensuring a curriculum was covered. As well, his experience as a special needs teacher highlighted the importance of meeting student needs through the establishment of consistency in routines. Today Gino ensures he conducts his classroom in a consistent, prepared manner which reflects the needs of his students.

George states he would not be a teacher today without the support of his parents throughout his education. He had problems learning to read when he entered school as well as difficulties in mathematics throughout his schooling. He had a very strong relationship with both his parents throughout his youth and adulthood. He remembers his father being very patient and caring as he helped George, first with learning to read and later with solving mathematics problems. Even throughout university his parents helped him with essay writing. Hence, his parents modelled how to be an effective teacher.

He learned from his high school history teacher the importance of making learning exciting through relating personal experiences from the war. George believes effective teachers must have excellent presentation skills when they teach. He cites his Grade 9 Mathematics teacher and his Psychology professor as examples of teachers who displayed excellent presentation skills.

Finally, George says an effective teacher must have a strong belief system. He learned from his father he must believe in something. George has learned through his relationships with his parents, teachers, colleagues and students what it means to be an effective teacher. Like all the participants in this study George learned what he believes to be an effective teacher. This set of beliefs guide him in his role every day. He states he is constantly learning from others what it means to him to be an effective teacher. Each person he encounters in his teaching role confirms his beliefs or challenges him to redefine his effective teacher beliefs.

Beliefs About Change Influenced by Relationships

After analysing the data from individual interviews, I concluded that, for these participants, beliefs about change are influenced by relationships with other individuals. Helene grew up in a stable home environment and faced her first major life change when she moved to Virginia to attend university. However, she reports this change was influenced by the presence and support of her older sister who was attending the same university. Her sister helped her adjust to the change.

Helene indicates she adapts to change situations through reflection and discussion with others. While she does not rush to embrace change, she is open to it. She believes curriculum change must be examined to determine how it affects her students. Hence, she reflects on the change with both her colleagues and with her students. After the reflective process, she says she modifies the curriculum to meet both her needs and the needs of the children.

Joanne views most change initiatives as being positive. In her youth she moved from Ontario to Nova Scotia and then to Alberta. Changes to her home environment are seen as acceptable and natural. As well, her mother encouraged her to not only accept change but anticipate it. For example, her mother encouraged her study of computers, as she believed it would be important to Joanne in the future. Even today her mother communicates any new trends she thinks Joanne should know.

In her student teaching practicum she was encouraged by her cooperating teachers to experiment with different teaching strategies and to accept risk taking as part of teaching. Joanne considers herself to be a leader of change in her present school. She has become a resource and mentor for colleagues in implementing computer software in their classroom programs. She also mentors students from all classes to aid them in learning computer skills. She refers to her leadership in change as "getting the ball rolling."

However, Joanne has experienced negative aspects of implementing the new Alberta Science curriculum. In the first year she had little background knowledge and struggled to teach the course. She embraced the hands on, discovery approach philosophy of the curriculum. However, she says she hated to teach the subject as she was unsure of how it should be taught.

From Joanne's comments she is comfortable with change she understands. Her relationships with others who embrace change have strongly influenced her. However, she does not rate herself as embracing all mandated change.

Ruth was exposed to home environmental changes when she was very young. Coming to Canada as an immigrant and not understanding English forced her to adapt to change very quickly. Family and friends in the Ukrainian community provided stability during her years of adjustment to Canadian society. Ruth indicates she felt she had to be more self sufficient and more self reliant. In change situations, Ruth relies more on her own interpretations. She says she analyses a new curriculum extensively prior to implementing small portions.

After trying small portions of the new curriculum she discusses her findings with colleagues to gain a better understanding. In change her students also become important as she tries to ensure the new program meets their needs. Ruth says she has encountered a great amount of change throughout her career and considers herself to be adaptable to new programs.

Change for Ruth will come after extensive research and background reading. She will not try to implement a whole curriculum but will break it down into manageable portions for experimentation. Hence, curricular change will be spread over several years and be modified to meet her students' needs each year.

Gino's youth contains few examples of change. His beliefs about change have developed from a close association with a friend during his youth and adult life. He refers to his friend as "Mr. Change." This individual taught him to view change as fun and as challenging. While Gino does not rate himself as embracing change to the same extent as his friend, his attitude is positive to most change initiatives.

Gino also identifies change with the hands on approach some of his teachers used when they taught him. He identifies his high school Social Studies teacher as one who has influenced his beliefs about change. He taught Gino to learn through debates and research project work.

When he began to teach in the school for children of native heritage Gino indicates his principal modelled for him how to adapt to change. He says situations were changing on a daily basis and he had to change to meet new demands on his time. As well, change was part of his experiences in teaching children with behavioural problems. Curricula had to be adapted moment to moment to meet unforeseen situations.

In implementing new curricula Gino believes he must be open to the advice of colleagues. He also believes the views of authors of new curricula must be heard. Hence, Gino will try to teach a new curriculum as it is written in the first year. Modifications to the program will only come after he has tried to implement it as it is prescribed.

George was raised in a stable home environment with the support of his parents in learning. While change was not a major part of his life, he says his father influenced his beliefs about change. He says his father embraced change and was always trying some new activity. He also refers to his father as teaching in new and innovative ways.

When he completed his first year of university, he discovered he had no career objectives. His father helped him find that objective in suggesting he become a teacher. From this experience, George now sees all change as needing an objective.

George relied on the counsel of colleagues to aid him in understanding new programs. He remembers the teacher with whom he worked during a sabbatical to aid him in developing novel study units. He also remembers the principal who guided him to develop problem solving skills and taught him to think convergently. When he is asked to implement a new curriculum he says he always "runs it past" a close friend to help him understand it and to give him feed back.

George says he embraces change and states he wants to be ahead of any new curricular changes. His implementation of the new Mathematics curriculum is evidence of this belief about change. George wants to be a leader in change and will pursue a career that allows him to be a curricular leader.

Effective Teaching Beliefs Affected by Change

The third theme arising from the individual interviews was the impact change has on effective teaching beliefs. All of the participants indicated they did not feel they were as effective in teaching when a new curriculum was introduced.

Helene says she sees change as forcing her to compromise. A new program such as the new Alberta Science curriculum compels her to make adjustments to her timetable. The new program takes longer to teach and, consequently, she discontinues teaching Social Studies for a period of time. Helene believes she must control the change. To accomplish this, she modifies the program to meet her own needs and those of her students.

Joanne also modifies her curriculum so she can teach more effectively. In change she says she has to develop a comfortableness so she can allow for risk taking. In the first year of implementing the new Science course of study Joanne did not feel comfortable in her teaching role. She says she did not have the background knowledge to teach the course and lacked the necessary organization to be an effective teacher. She describes her first year as "chaos." It was not until the second year of implementation she began to feel effective.

Ruth experienced change at different times in her career that made her feel ineffective as a teacher. When she began teaching she says she did not teach the high school and junior high students very effectively. Her approach to endeavouring to teach effectively was to transfer to a position in the elementary school where she believed she was effective.

Ruth experienced change when she took the home bound teaching position. She had to teach high school subjects such as Mathematics. To become effective she sought the guidance of her husband to gain the background knowledge she needed.

When new curricula is introduced, Ruth tries to maintain her effectiveness as a teacher by introducing small portions of the new program at any time. Hence, the full impact of introducing the entire curriculum is avoided and she is able to maintain her beliefs in her effectiveness in her role.

Gino also felt quite ineffective in his teaching role when he began teaching in the behavioural class. He says his work in his previous school did not prepare him for this change. However, after three years, he was sought out by teachers to give workshops on how to teach behaviour modification.

Gino believes he should implement curriculum as it is prescribed but his effective teaching beliefs come into conflict with the curriculum. He states he feels under pressure to teach the entire curriculum but knows he does not have enough time. He wants to teach more creatively but feels he cannot as he believes he must teach a specific body of knowledge. This belief is reinforced by the demands he feels are placed on him when student achievement is measured.

When he implemented the new Science curriculum he found his background knowledge lacking. He says he knew nothing about electricity and had to learn it "one step ahead of the students." In mandated change Gino does not feel comfortable in his effective teaching role until he has taught the program more than once. When he feels comfortable with the change he believes he is more effective as a teacher.

In the first year of mandated change George says he feels very uncomfortable in his teaching role. He asks himself whether the children are really learning anything. However, this is the only indication George gives of his effective teaching beliefs being challenged in change. Instead he talks about change as being positive or negative. He says if it is negative he must find a way of making it positive.

George looks at change from the perspective of how it fits in with his "belief system" which he says guides his approach to teaching. If he can reconcile the change to his belief system he says he plans the change. George approaches change from a salesperson's perspective. He says he has to get excited about the change so he can convey that excitement to his students. When he introduces the new curriculum he watches the children to determine how they respond. From their responses he plans his modifications for the following year.

To summarize, each teacher indicated to varying degrees his or her ability to be an effective teacher is affected when mandated change is implemented. From their comments the first implementation year is often a time when they feel not very effective. This feeling may improve with each successive year.

Modifying Curriculum to Teach Effectively

In the individual interviews each teacher indicated he or she has a set of beliefs about how he or she performs as an effective teacher. As well, each participant stated he or she modifies a new mandated curriculum. From the analysis of the data I found effective teaching beliefs influence how new curricula is implemented.

Helene says her interpretation of change is unique to her and she modifies it to suit her interpretation. She may choose to leave some topics to the end of the year if she is not interested herself. She states she may even leave out some topics if she cannot complete the whole curriculum. Helene also indicates she modifies to meet the needs of the students as well as her own particular needs.

Joanne believes new curricula may be written to meet the needs of students in other schools. For many of the students she teaches, she indicates, they are unable to succeed in the prescribed program. Hence, she modifies curriculum to adjust it to the level where her students will achieve success.

Joanne states she must be flexible in implementing new programs as time allotted to another subject may have to be moved to the new topics. She says new topics often take much longer to teach and she must modify the curriculum to try to cover the topics. Like Helene, she will also leave out topics if she does not have time to cover the entire program.

Modifying the curriculum also results from new background knowledge she learns. As she gains an understanding of the new topics, she modifies them to accommodate what she has learned. In the first year of the new Science curriculum she struggled to effectively teach the course. With more background knowledge she says her second year was much more effective and she was happy with her teaching performance.

Ruth takes a new curriculum and breaks it down into portions she feels comfortable implementing. Modification of the new program commences immediately when she determines what is successful and what is not. Ruth indicates she views curriculum only as a guide. She does not feel she is compelled to implement it as prescribed. She prefers to assess the value of the change as it relates to the needs of her children. As a result, Ruth's beliefs about effective teaching take precedence over the mandates of the curriculum.

Gino struggles to meet the needs of students, parents, School Board and Alberta Education and teach effectively. At this point in his career he is trying to satisfy the demands placed on him. He indicates he does modify new curricula in the second and third year of the implementation process.

George has determined what effective teaching means to him. He refers to his "belief system" as the "vehicle" he uses to guide his actions when he implements a new curriculum. Since the new Mathematics program fits into the way he believes it should be taught, he is able to implement with few modifications. He says if a program does not fit into his belief system he will extensively modify it so he can teach effectively.

Effective Teaching Improves In Second and Third Year of Implementation

From the analysis of the individual interviews, a common theme emerged about effective teaching in mandated change. All of the participants acknowledged an improvement in effective teaching following the first year of the implementation process.

Helene values stability and predictability for her to be effective in her role. She indicates both are absent from her teaching in the first year of implementing a new curriculum and return in the second and third implementation year as she gains understanding, knowledge and confidence.

Joanne indicates she felt inadequate teaching the new Science program. She says she was not motivated, hated teaching it, did not have a knowledge base and was disorganized. In her second year her comments are completely opposite. She says she knows the material and why she is teaching the topics. She is organized and prepared to teach effective lessons. She also says she loves teaching the new curriculum now.

Ruth's effective teaching, as previously stated, change very little in mandated change. Since she teaches the new program in small portions, she believes she is teaching effectively in change. However, her effective teaching beliefs are challenged when she teaches classes who are unable to successfully learn the new material. Hence her effective teaching beliefs decline in years where she has several special needs children in her class and improve when she believes she can teach a curriculum that shows successful learning taking place.

Gino believes change should be fun and challenging. However, in the first year of implementing the new Science curriculum, he did not perceive change to be enjoyable. It is only in the second and third year of implementation Gino begins to experiment and treat the change as fun and challenging. He says in the first year he "scrambles" to teach effectively. In the second he says he has "kind of an idea of how things are working." In the third year he indicates "things are running smoothly." Gino also adds in the second and third year he has control of the change.

George describes his experience in implementing new programs as "blocks being slid into place." He uses his experiences in the first year to build his program in the second and third year. He adds he becomes more organized following the first year as he knows what will happen when he teaches a topic again. George also states he can anticipate the problems that will arise and deal with them in the second year. Hence, George feels he is more effective each year he teaches a new curriculum.

Questions Arising from the Themes

The interviews with the individual participants illustrated the importance of the relationships a teacher develops over a lifetime that influence his or her effective teaching beliefs. As well, these beliefs affect how a teacher performs his or her work. Hence, a teacher's performance in the classroom is unique to that person and is governed by his or her effective teaching beliefs.

When mandated change was introduced, the participants indicated they did not teach as effectively as they had in previous years. However, I was unable to determine from their comments whether all or some of the ineffective teaching beliefs were affected in change. In analysing the statements each made in the interviews concerning change, the effective teaching beliefs did not change during implementation of a new curriculum. However, the rating of himself or herself as an effective teacher seemed to change.

I wanted to know if all effective teaching constructs were affected during mandated change. Furthermore, I was interested in how the ratings for each construct changed as each individual moved from the first to the second or third year of the implementation process. I wanted to learn, after they had taught through the change, if they believed, in retrospect, how their beliefs changed.

I also wanted clarification about their beliefs about change. The analysis of the interviews illustrated to me how relationships affected their beliefs about change. Two questions were left unanswered by the interviews. Do beliefs about change vary to any extent during a teaching career and do the ratings of adaptability to change vary?

The third area where I wanted clarification was the effect external pressure has on teachers when they implement new curricula. I had insufficient data on teachers' beliefs about the effects of external pressure on whether teachers teach a prescribed course as written. Some participants discussed this issue to some extent but I wanted further detail. Assessment tests were raised as a means by which governments hold teachers accountable for implementing new curricula as prescribed. I was interested in how the participants would address this issue.

The fourth area where I wanted clarification was on how teachers' beliefs impact their decisions when they modify a curriculum. Each participant indicated he or she made modifications to the curriculum either in the first or second year of the implementation. I wanted clarification as to what extent the teachers thought each of the effective teaching beliefs affected their modification decisions.

The fifth area centred on how teachers believe change agents can aid teachers in implementing new curricula when each teacher has his or her own set of effective teaching beliefs. Previously, all the participants stated they were either exposed to one size fits all professional activities or received little or no support in implementation.

As I indicated in the literature review, curricular change has few successful examples. This research indicates teachers' beliefs about effective teaching and change have not been fully examined in previous research. I wanted to address the issue of how teachers believed change agents can aid teachers in the implementation of new curricula given these new variables to consider.

Methodology to Clarify the Questions Arising from the Themes

In Chapter III I discussed the plan to use a focus group after the analysis of the data from the individual interviews. When I originally planned this research, I viewed the focus group interview as a way to clarify the data obtained in Rep Grid development and the individual interviews. In my initial plan for a focus group, I did not have a clear perspective of what questions I would raise. My aim in using a focus group was to pose specific questions arising from themes I identified in the individual interviews. The purpose was to allow each participant to hear the views of others and to respond with his or her own views.

The first two areas of clarification that arose from the themes did not require a focus group and could have been addressed individually. Since I had all the participants together for a focus group to address areas three, four and five, I decided to collect data at the same meeting for all five areas.

Focus Group Research

For the focus group I included the pilot study participant as well as the four participants. The focus group took place approximately eight months after the individual interviews. I acted as focus group moderator.

The first part of the focus group addressed the first and second areas arising from the themes. I asked each participant to review his or her bipolar constructs for effective teaching. I used the Rep Grid form (See Appendix B) and inserted only the bipolar constructs on it for each participant. I asked each participant to rate himself or herself for two different time periods for a curriculum he or she has recently implemented. I suggested either the new Western Canadian Protocol Mathematics or Alberta Science be used as these were the focus of the individual interviews. I asked each participant to insert opposite the constructs for effective teaching a 1 - 5 Likert Scale assessment of himself or herself in the first year of the implementation and a second rating in the next column a rating in the second or third year of implementation. 1 would be the most positive and 5 would be most negative. I then asked each participant to describe the specific ratings and the reason for each choice.

For the second area I gave each participant a copy of the set of beliefs about change he or she identified in the second interview (See Appendix B). The form contained the bipolar constructs and the 1 - 5 Likert Scale rating each had personally assigned himself or herself in the third interview. To determine if the rating changed between the time of the interview and the focus group, I asked each participant to rate himself or herself again. Following the rating I asked each participant to indicate if the ratings had changed. I asked each to explain the reason for the ratings.

The second part of the Focus Group addressed the third, fourth and fifth areas. To secure data needed for clarification, I established five questions for discussion among the five participants and, throughout the focus group, asked further questions to clarify issues. The five questions were: "When you are asked by Alberta Education to implement a mandated curriculum, what do you feel your response should be?"; "How do outside pressures, such as achievement tests, affect your ability to be an effective teacher?"; "How do you try to improve your effective teaching performance between the first and second year of the implementation of a new curriculum?"; "What modifications do you make to a new curriculum, so you can teach more effectively?"; "If we each have our own set of effective teaching beliefs and change beliefs, how can Alberta Education or your school board help you implement new curricula?"

The focus group discussion was audio taped and a transcription was made. The data was entered into the *NUD*IST* computer program using the same procedures as with the individual interviews.

Summary

In order to learn the extent to which teachers feel mandated change affects their beliefs about effective teaching I designed a further study using a Focus Group interview and additional Rep Grid information. I wanted to learn if teachers feel their beliefs about change are static or fluctuate over time. I wanted to discover the obligation teachers feel towards implementing curriculum as prescribed. What decisions go into a teacher's decision to modify a curriculum so he or she feels effective teaching new material. Mandated change is an unknown variable for classroom teachers and the belief system they use to approach that change becomes clearer with the analysis of the additional Rep Grid data and the focus group interview. In the following chapter I clarify individual themes with the analysis of the Focus Group data.

CHAPTER VI

BELIEFS AFFECTING MANDATED CHANGE

Clarifying Themes about Effective Teaching Beliefs

The first area we examined was whether beliefs about effective teaching change throughout the implementation phases of a new curriculum. The following section illustrates changes that took place for each participant and, from the focus group comments, each participant explains reasons for changes in the ratings for effective teaching beliefs.

Helene, the pilot participant, had listed eight bipolar constructs for effective teaching. In the two sets of ratings, Helene indicated four of the ratings remained the same while four changed. Table 11 indicates the constructs and their ratings for the first year and for the present time.

TABLE 11

HELENE'S EFFECTIVE TEACHING BELIEFS IN IMPLEMENTING THE ALBERTA SCIENCE CURRICULUM

	1	2	3	4	5	
Predictable	~	*				Unpredictable
Interested in me as an individual		~		*		Uninterested in me
Approachable		*~				Cold
Calm & Soft Spoken	*~					Screamer
Stable		*~				Unstable
Made subject matter interesting	*~					Boring
Interested in what they were doing	*	~				Appeared uninterested
Fair to students	~	*				Unfair to students

* Refers to the rating assigned by Helene for the first implementation year.
~ Refers to the rating assigned by Helene for the third year of the implementation process.

For the four constructs Helene did not change, she indicates, "Some of these it doesn't matter what you're doing because it talks about how you relate to children" (F.G., L. 1856-1857).[2] For the constructs that she did indicate a change, three moved to a more positive situation while one became more negative.

For "Predictable - Unpredictable" Helene changed from a 2 in the first year to a 1 now. She reasons, "When I'm learning a new curriculum I tend to jump all over the place... I tend to be a little random. But I don't then present the material to the children in the best way, either. I think there is a little bit of predictability after I've done it at least once" (F.G., L. 1870-1879). For the bipolar construct "Interested in me as an individual - Uninterested in me as an individual" Helene moves two positions from a 4 to a 2. The preoccupation of implementing a new curriculum takes precedence over her interest in how the children are learning. She says, "I can't really watch the children as much as I should be doing because I'm so interested in thinking, now what do I have to do, and what do they expect" (F.G., L. 1883-1886). The third bipolar construct was rated as becoming more negative, "Interested in what they were doing - Appeared uninterested." Helene attributes this change to her need for new knowledge and approaches to teaching. She explains, "I have an attention span that's this long... Even though I don't always know what I'm doing, sometimes it's exciting because it's the first year I've done it" (F.G., L. 1891-1893). The fourth bipolar construct changed was "Fair to students - Unfair to students." Helene moved from 2 to 1 and attributes it to being able to assess more fairly. "I think my marking becomes more fair. Knowing what the children are able to do is probably a fairer assessment after I've done it for a year because I know whether it will work or not" (F.G., L. 1905-1911).

The second participant, Joanne, identified thirteen bipolar constructs when we met in the first individual interview. When she was asked to rate her effective teaching beliefs for the first year and the present year of the implementation process, she chose the Alberta Science Curriculum. See Table 12 for her ratings for the two years.

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[2] The reader will note that all references to the focus group interview will be referenced by the letters F.G. The line number represents the numbering system assigned by the NUD*IST computer program during the analysis stage of the research. i.e. (L. 100).

TABLE 12

JOANNE'S EFFECTIVE TEACHING BELIEFS IN IMPLEMENTING THE ALBERTA SCIENCE CURRICULUM

	1	2	3	4	5	
Patient		~	*			Impatient
Warm		~	*			Cold
Approachable		~	*			Intimidating
Motivating		~	*			Unmotivating
Effective		~	*			Ineffective
Make things meaningful		~	*			Doesn't make meaningful
Sense of humour		~	*			Dry
Student Participation		~*				Teacher led
Good Discipline		~	*			Laid back
Organized		~	*			Unorganized
Knowledgeable		~		*		Poor knowledge base
Enthusiastic		~	*			Boring
Fresh		~	*			Burnt out

* Refers to the rating assigned by Joanne for the first implementation year.
~ Refers to the rating assigned by Joanne for the third year of the implementation process.

Joanne rated only one the same, "Student Participation - Teacher Led." For this construct she indicated change did not affect how she approached the involvement of students in her teaching presentation. However, she does not see herself as being very effective when she is faced with a mandated change initiative in the first year. She states she did not have sufficient resources in her first year of teaching the new curriculum to become fully knowledgeable of the subject matter. The rest of the constructs were rated more positively at the present time as compared to the first year of the implementation process. In the Focus Group she did not elaborate on the change in rating, except to say, she feels more comfortable and effective after she has taught a new program at least once.

Ruth, on the other hand, changed only one of her ratings for effective teaching. Table 13 illustrates how she rated herself in the first year of implementing the Western Canadian Protocol Mathematics.

TABLE 13

RUTH'S EFFECTIVE TEACHING BELIEFS IN IMPLEMENTING

THE WESTERN CANADIAN PROTOCOL MATHEMATICS

	1	2	3	4	5	
Organized	~	*				Unorganized
Energetic		~*				Lazy
Incredible Enthusiasm		~*				Lacks enthusiasm
Loves Life	~*					Fearful of life
Loves children	~*					Cruel
Resourceful	~*					Not resourceful
Makes subject come alive	~*					Boring subject
Develops higher thinking	~*					Does not challenge
Highly knowledgeable	~*					Not knowledgeable
Understands world	~*					Limited understanding
Incredibly thorough	~*					Not thorough
High expectation	~*					Low expectations
Believes in inclusiveness	~*					Exclusive
Sense of Humour		~*				No sense of humour

* Refers to the rating assigned by Ruth for the first implementation year.
~ Refers to the rating assigned by Ruth for the third year of the implementation process.

The only one changed was "Organized - Unorganized." She explains her ratings in the following manner.

> I think a lot of my beliefs were basically not just beliefs about curriculum. They were more generalized in my beliefs about life, and the importance of education within the whole scheme of things. Initially, I'm not as organized when something new comes in, no matter how much I've prepared... I have to really think things out. I can read it over, but until I've tried it, I'm really not sure how it's going to work, or how it's going to pan out. (F.G., L. 308-319)

Ruth indicates she has not fully accepted some of the philosophy of the new curriculum and does not feel it is a core program. As a result, she indicates major modifications are needed for her to implement it as it has been written. She says,

> It's excellent for supplementary material but as a core course, I can't use it in that way... I have to modify it tremendously because of its hands on manipulatives. Children cannot focus in that way for a long time. It's excellent either to start up a lesson, or to supplement it; but not as the core material. (F.G., L. 376-385)

The third participant, Gino, rated himself against twelve bipolar constructs. Six constructs were given the same rating for both years and six were rated differently. See Table 14.

TABLE 14

GINO'S EFFECTIVE TEACHING BELIEFS IN IMPLEMENTING THE ALBERTA SCIENCE CURRICULUM

	1	2	3	4	5	
Knew subject matter		~		*		Didn't know subject
Consistent		~	*			Inconsistent
Expected high standards	~*					Accepted low standards
Prepared		~		*		Unprepared
Encouraged going beyond	~		*			Uninspired
Interested in student as person		~*				Uninterested in student
Made learning interesting		~	*			Boring
Creative		~	*			Not creative
Sense of humour		~*				No sense of humour
Respect	~*					Lack of respect
Love of students		~*				No love of students
Excellent discipline	~*					Uncontrolled discipline

* Refers to the rating assigned by Gino for the first implementation year.
~ Refers to the rating assigned by Gino for the third year of the implementation process.

Unlike the previous participants Gino did not discuss how specific constructs are affected in mandated change. Instead he discussed his ratings in more general terms.

> I think my beliefs are divided into two groups, one which has to do specifically with curriculum, and ones that have to do with teaching in general. The ones that have to do with teaching in general stayed the same. The ones that have to do with organization, knowing subject matter, being creative, being prepared all increased because I'm more familiar with the material. I have more background information. I've seen what works, what seems relevant and what doesn't. So, I've been able to change. (F.G., L. 323-332)

George, the fourth participant, rated himself on fourteen bipolar constructs for effective teaching. Six constructs were rated the same and eight were assigned different ratings for the two implementation years. George selected the Western Protocol Mathematics to rate. His ratings reflect a five year span of time, as he began the implementation process three years prior to the Alberta Education mandate. See Table 15.

TABLE 15

GEORGE'S EFFECTIVE TEACHING BELIEFS IN IMPLEMENTING THE WESTERN CANADIAN PROTOCOL MATHEMATICS

	1	2	3	4	5	
Knowledge of subject matter	~			*		Poor knowledge of subject
Not elitist		~		*		Elitist
Warm individual		~*				Cold individual
Nurturer	~*					Unfeeling
Respect for students		~*				Lack of respect for students
Instilled love of learning	~			*		Didn't instil love of learning
Excellent role model	~			*		Poor role model
Ability to relate	~*					Inability to relate
Excellent problem solver		~*				Weak problem solver
Makes students feel worthwhile	~	*				Humiliates students
Goes the extra mile	~*					Won't go the extra mile
Excellent presentation skills	~	*				Poor presentation skills
Creative & innovative	~*					Lacks creativity & innovation
Strong belief system	~	*				Weak belief system

* Refers to the rating assigned by George for the first implementation year.
~ Refers to the rating assigned by George for the third year of the implementation process.

For the bipolar constructs he did not change, George believes some are not influenced by a change initiative. However, for the ones he did change, he says, "I think, when I was first teaching it, I was puzzled over some things... You didn't know the material. You have a hard time being an excellent role model... Now I feel much more comfortable in modelling the thinking that goes into it" (F.G., L. 1751-1764). He also adds, "When we're learning new material, I think it affects things. Now my subject matter is very good" (F.G., L. 1715-1717).

In conclusion, all the participants felt some of their effective teaching constructs did not change when a new curriculum was implemented. They also believed some of their effective teaching beliefs were affected by a mandated change initiative. Except for one Helene identified as becoming more negative, the ratings that changed were moved from more negative in the first year of implementation to more positive in the present day rating.

The Effective Teacher

Throughout the individual interviews and the focus group discussion, I observed none of the teachers indicated he or she was an effective teacher in all the selected constructs. While each identified a set of constructs he or she held to be necessary for effective teaching, I puzzled on why no one saw himself or herself achieving that standard of excellence as a teacher. I asked each participant if he or she felt perfection was possible or was it just a utopian expectation. All the participants stated many factors preclude perfection as an effective teacher. Helene indicated, "I tend to see 1 as perfection and I know myself well enough to know I'm not perfect, so I don't know whether I could ever say that I could get all 1's... What's interesting, I would probably rate someone else as having all 1's" (F.G., L. 2346-2358). Joanne seems to agree with Helene when she says, "I think it's unrealistic. I think that's putting too much pressure on you and your children to be able to achieve that on a constant basis" (F.G., L. 514-516). Gino adds,

> I don't think it's realistic just because we're people and we differ day to day depending on what stresses and what things are happening in our lives... Sometimes it's hard to be creative and have excellent discipline. Sometimes a class will not allow you to do both to a high standard. A good teacher might be able to do both well, but not excellently. (F.G., L. 496-504)

Ruth noted some form of change is always present in a teacher's life and this erodes the desire to achieve perfection in effective teaching. "Whenever you come across something new, you have to start at a lower level. That's what change is. You're always starting, then moving up. I don't think we should have 1's all the way across, nor is it desirable" (F.G., L. 506-510). George also agrees, "I think it would be very tough to find a teacher who felt they were doing a perfect job" (F.G., L. 2315-2317).

In conclusion, none of the participants believe it is possible to achieve perfection in all the effective teaching constructs at the same time.

Common Themes in Beliefs about Change

As part of the research into how a teacher's beliefs affect his or her decisions in mandated change, I asked each participant during the second interview to create a set of constructs of his or her beliefs about change. At that time I asked each person to rate himself or herself against the bipolar constructs to determine his or her adaptability to change. To clarify the second area arising from the individual themes I presented each participant, at the Focus Group, with his or her bipolar constructs and the 1 - 5 Likert Scale rating he or she assigned for himself or herself (see Appendix B). I wanted to determine if the participants changed the self ratings over a period of time. I asked each individual, in the column beside the first rating, to rate himself or herself again.

Helene indicated she changed five out of the twelve ratings she originally assigned herself. All were changed by one. Changes are displayed in Table 16.

TABLE 16

7

HELENE'S BELIEFS ABOUT CHANGE OVER AN EIGHT MONTH PERIOD

	1	2	3	4	5	
Listens to reason		~*				Opinionated
Reflective	~*					Traditional
People Oriented		~*				Self centred
Creative		*	~			Sameness
Innovative	~*					Stuck in a rut
Open to the future	~	*				Lives in the past
Open to change		~	*			Resistant
Goes out on a limb			~*			Sticks to the tried & true
Risk taker			~	*		Safe
Doers		~*				Whiners
Flexible		~*				Rigid
Youthful thinking	*	~				Old thinking

* Refers to the first personal rating assigned by Helene.
~ Refers to the second personal rating assigned by Helene.

Of the seven ratings Helene left the same she says, "You have so many different experiences, and so, you base your opinion, or your concept, even of yourself, on your experiences that you've had" (F.G., L. 1543-1545). Two ratings moved toward the negative side of the bipolar constructs, "Creative - Sameness" and "Youthful thinking - Old thinking." Helene justified her rating as she reflected on an educational article, written by a fellow colleague in the ATA magazine. She says,

> There is nothing wrong with being somewhat traditional, considering tried and true methods. Why do I always have to be reinventing

> something, and making it fun. It doesn't have to be like that. There are some traditional things that are very beneficial and very good. (F.G., L. 1473-1480)

For the three constructs moved to a more positive rating, Helene attributes the belief changes to events in her life which she considers to be positive. "In my own life I've made lots of changes because I sold my house and I moved. Moving from a house to a condo is almost a lifestyle change. It just seems like there's this whole future that has opened up" (F.G., L. 1436-1441).

Helene also considers herself to be more of a risk taker which she had previously rated negatively. She says, "Tomorrow I'm addressing the Board. So, talk about risky. A few things like that, I think I have taken some initiative" (F.G., L. 1450-1452).

Joanne, on the other hand, assigned the same rating for her beliefs about change, except for one. See Table 17.

TABLE 17

JOANNE'S BELIEFS ABOUT CHANGE OVER AN EIGHT MONTH PERIOD

	1	2	3	4	5	
Up to date		~*				Living in the past
Knowledgeable		~*				Not knowledgeable
Progressive		~*				Stagnant
Motivated		~*				Unmotivated
Flexible		~*				Stressed
Accepting		~*				Refusing
Assertive		~*				Timid
Risk taker	~*					Doesn't take risks
Enthusiastic	*	~				Unenthusiastic
Untraditional		~*				Traditional

* Refers to the first personal rating assigned by Joanne.
~ Refers to the second personal rating assigned by Joanne.

Joanne indicated little changed in her beliefs about change from our interview to the time of the focus group. She attributed the change in "Enthusiastic - Unenthusiastic" bipolar construct from a 1 to 2 rating as being the result of the time of the year. The focus group was held in December and she states it could return to a 1 in January.

Ruth changed five of the fourteen ratings for the bipolar constructs about change beliefs. Those changed were given ratings more positive than the first set. See Table 18.

TABLE 18

RUTH'S BELIEFS ABOUT CHANGE OVER AN EIGHT MONTH PERIOD

	1	2	3	4	5	
Well read	~*					Doesn't Research Change
Seeker	~*					Closed
Adventurous		~*				Conservative
Adaptable		~	*			Rigid
Positive Energy	~	*				Negative energy
Humble		~*				Wants to stand out
Personal Sacrifice	~*					No Personal Sacrifice
Thoughtful doer			~*			Self server
Sees the big picture	~*					Doesn't see the big picture
Reflective	~*					Shallow
Celebrates humanity	~	*				Controlling
Open & certain	~	*				Defensive & uncertain
Instigator		~	*			Follower
People Oriented		~*				Not People Oriented

* Refers to the first personal rating assigned by Ruth.
~ Refers to the second personal rating assigned by Ruth.

Ruth indicated she feels far more positive towards her beliefs about change this year, as compared to ten months ago, when the individual interviews were held. She states she is more positive about being adaptable, having positive energy, celebrating humanity, being open and certain and being an instigator. She says, "I think we stay the same people, but circumstances change. I have a much more positive group of students this year, and maybe that's perhaps what's affecting me" (F.G., L. 94-96).

Gino created fourteen bipolar constructs of his beliefs about change. When he evaluated the ratings he assigned himself in the individual interviews, he stated only two should be rated differently at the time of the focus group. "Sense of humour - No sense of humour" and "Accepts Dares - Dismisses dares" were rated 1 point towards the negative polarity. See Table 19.

TABLE 19

GINO'S BELIEFS ABOUT CHANGE OVER AN EIGHT MONTH PERIOD

	1	2	3	4	5	
Makes change fun			~*			Not making change fun
Change for change sake		~*				Stuck in the mud
Change as a challenge		~*				Change as a threat
Accepting other's opinions		~*				Rejecting other's opinions
Adaptable		~*				Not adaptable
Acts Comfortable		~*				Acts uncomfortably
Enjoys change		~*				Doesn't enjoy change
Aware of trends			~*			Unaware of trends
Change as positive			~*			Reactionary
Sense of humour		~	*			No sense of humour
Accepts dares	*	~				Dismisses dares
Flexible		~*				Inflexible
Giving personal time		~*				Not giving personal time
Meaningful		~*				Lack of trust

* Refers to the first personal rating assigned by Gino.
~ Refers to the second personal rating assigned by Gino.

Of the two Gino rated differently he says, "I went down in accepts dares because I'm not feeling as daring as I did last year. And for sense of humour, I went up. I may be laughing a bit more this year" (F.G., L. 56-58). When it comes to beliefs about change Gino does not believe these change to any great extent. Those that do are affected by circumstances. He states,

> I don't think we change our beliefs. I think if you catch us on certain days, whether we lack energy, or, a particular thing in our life has been frustrating you may see some change. I think overall we're probably very consistent. It's just the type of people we are. But maybe depending upon the day, that might cause a change. (F.G., L. 81-87)

When George was asked to evaluate his previous rating of himself against the beliefs about change bipolar constructs, four of the fifteen were given a different rating. See Table 20.

TABLE 20

GEORGE'S BELIEFS ABOUT CHANGE OVER AN EIGHT MONTH PERIOD

	1	2	3	4	5	
Modest		*		~		Egotistical
Problem solver		~*				Not a problem solver
Inspires	~	*				Uninspiring
Optimistic	~*					Pessimistic
Excited	~*					Reluctant
Non traditional	~*					Traditional
Risk taker	~*					Not a risk taker
Innovative	~*					Not innovative
Plan for change	~*					Resistant to change
Acceptance of new ideas		~*				Resistant to new ideas
Secure		~*				Insecure
Not cynical		*		~		Cynical
Good listener		~*				Poor listener
Open minded		~*				Closed minded
Strong leader						Weak Leader

* Refers to the first personal rating assigned by George.
~ Refers to the second personal rating assigned by George.

George attributes some of the rating changes to the experience he had in being a participant in this research. He says,

> I think I'm more definite about some things. I'm not as wishy - washy. The research was an interesting start; the reflection we did last year. I've continued to do that, and I'm actually keeping a journal right now.

> And I'm involved in a course that demands a certain amount of reflection. It's helped me put a lot more things into perspective, and the importance of some. (F.G., L. 1290-1297)

George decided to take the course to prepare to take on greater leadership responsibilities. Hence, two of the bipolar construct ratings, "Modest - Egotistical" and "Not Cynical - Cynical" changed from 2 to 4 in both cases, indicating a move to a more negative view for these constructs. He explains the shift in the following manner. "I'm not sure egotistical is necessarily a negative thing... I sometimes think to be good you have to be. There has to be a certain amount of ego. You have to be driven by ego otherwise people will stomp all over you" (F.G., L. 1345-1355).

For the second bipolar construct indicating a major rating change, George states,

> I think the closer I get to a principalship the more cynical I am about certain things and certain decisions that have been taken. I don't necessarily view that as negative. I think it's good to have a certain level of cynicism because you're looking at something and saying, I'm not sure I want to buy into that. (F.G., L. 1381-1387)

For the other two constructs he rated differently, George indicates he now feels far more inspired with the rating going from 2 to 1. However, upon reflection, he does not believe he is as good a listener as he believed he was when he first rated himself. The rating changed from 2 to 3.

Do Beliefs about Change change?

From the preceding section it would appear the simple answer is yes. However, I believe the theme must be examined in more detail to comprehend when and why beliefs about change do change over time. Helene attributed her rating changes to a lifestyle alteration over the past year. Joanne's single rating change was attributed to the time of the year and her own personal fatigue. Ruth and Gino do not feel their beliefs changed to any extent but are altered by situational or experiential causes. George is planning to pursue a promotion and the experiences he encountered altered his view of some of his beliefs about change. As he says,

> I think experiences really do change the way you perceive things, and so your values evolve...If you have a lot of positive experiences and you work with positive people, I think they help it evolve. Whereas if you work with a lot of negative people, that can certainly have an impact on your values. (F.G., L. 1557-1564)

Both Gino and Ruth raise the issue of aging when asked about beliefs about change. Gino says, "As we get older, and maybe it's just because we've seen so much change, we're more comfortable with what we're doing, so we don't need to feel maybe to change for change sake. Sometimes we see it as useless or a waste of energy" (F.G., L. 124-128). However, Gino does not attribute lack of a desire to change with the aging process. "It varies per person. There are people I know at 65 years old and they're changing constantly, but that's always been their personality. And there are people, I know, in their 20's and don't change" (F.G., L. 132-136).

Ruth also believes a teacher's beliefs about change modify through the experiences gained over a career. She indicates, "I think, on a professional level, as you get older, you can analyze something that's coming at you. You can decide if it's worth going for the whole idea, or choosing parts out of it, and then you just take what you need" (F,G., L. 171-174).

Negative experiences, all the participants agree, affected their beliefs about change. Most cited experiences with regard to the implementation of a mandated curriculum as having an effect on their beliefs. Helene remembers a curriculum she was not able to implement. When asked what she did, she replied, she just did not do it. Paul discussed his first year's experience with the new Western Protocol Mathematics. He had leadership support, no staff support, few resources and felt quite cynical and negative about the experience. As he says, "It's hard to plan for change when you're the only one doing it... You get pessimistic pretty fast...It's hard to inspire somebody when you don't believe in something" (F.G., L. 1614-1621).

In conclusion, beliefs about change, as all the participants acknowledge, are affected by situations ranging from life and career experiences, to successes and lack of successes in implementing new curriculum.

Curriculum Development and Implementation Expectations

To clarify the third area from the individual themes I wanted to learn whether the participants felt an obligation, to policy makers, to implement the prescribed curriculum as written. To ensure curriculum is implemented as prescribed, policy makers administer various achievement tests. However, this research draws into question the assumptions policy makers have that curriculum is being fully implemented as written. Tyack & Cuban (1995) were cited in the literature review for their observations into why curriculum reform has failed over the past century. All of the participants in this study indicated they believed policy makers thought curriculum should be implemented as written.

The following statements illustrate the problems they experience as educators attempting to implement a prescribed curriculum. Gino states,

> There is just no way they could expect us to be exactly the same, or even fairly close to one that's taught somewhere else in a different school. They don't realize all these variables, and that the variables change day to day, week to week, year to year. Personally, I can't teach the same unit the same way in different years. So, if I can't do that, how am I going to expect another teacher in another school to teach something similar, the same as what I'm doing? (F.G., L. 580-589)

Gino goes on to identify variables, such as, school resources, background knowledge of the children and background knowledge of the teacher as reasons why he is unable to comply with policy makers expectations for full implementation. Ruth adds, "I think sometimes they really have not thought it through in terms of the children. They think it through more on an intellectual level rather than on a practical level" (F.G., L. 569-571). George cites the new Alberta Science curriculum as an example of teachers failing to implement it as it is prescribed. "I supervise program... I believe it's impossible. Maybe I can be proven wrong... I haven't seen anybody yet who has fully implemented it as it's written" (F.G., L. 2185-2192).

In Alberta, as in many jurisdictions, the government has adopted an assessment policy of testing children at various grade levels to ensure the prescribed curriculum is being implemented as written. Most of the participants in this study indicated the policy does not achieved the desired results of its originators and in effect, some believe reduces their performance as effective teachers. Gino does not dispute the government's authority to set standards but questions the approach taken in the dissemination of the scores.

> If government feels they need to have certain standards, and that we all should be working towards those standards, I have no problem with that. Why does it need to be used as a rating tool? Why is it even published? If they come to me and say, with the kids you had last year, these are the concepts they had trouble with, then I could adapt my teaching to make sure those are covered... I think the government feels the only way to make people do things is to prod and embarrass...If we (policy makers) embarrass schools with low marks, they will do better. (F.G., L. 904-922)

Helene indicates she worries about government mandated achievement tests and their effects on both the students and her own effectiveness as a teacher.

> I do worry somewhat about the Alberta Ed tests because those results are published. No matter what people say about pressure, it's there whether it's subliminal or otherwise. You want the kids to be able to

> achieve something on those tests. Part of it is the test taking skill. I feel badly if I haven't talked to them a little bit about how to take a multiple choice test. (F.G., L. 2214-2220)

George stated when he taught grade 6 he got so caught up in ensuring his students did well, he would have them rewrite the tests the following year to improve their scores and become more familiar with the structure of the test. In effect, George, like Helene, taught his students the skill of writing multiple choice tests.

All of the participants expressed concern about the pressure they felt from the publishing of achievement test scores and how their ability to be effective, as teachers, is affected. One of the concerns emanated from the pressure on the teacher to teach everything that is prescribed in the curriculum. Gino indicates he is not as effective as a teacher with the pressure of the government achievement tests. He says,

> It's hard to make things interesting when you're under pressure. Creativity. I think when you are expected to push, push, push, you lose some of the creativity. It's much easier to read about explorers, as an example, than to act out a play or go on the Internet. If it's just strictly facts that we want, the fastest way is to sit down and we'll read. It may not be the most meaningful. (F.G., L. 946-954)

Joanne also indicates that pressure from achievement tests has an effect on her effective teaching beliefs. She says, "I definitely lose my sense of humour. I find that the kids also become very bored, and so your discipline tends to not be as effective" (F.G., L. 964-966). On the other hand, Ruth , who has been teaching for over thirty years, states she is not influenced by the achievement tests. From her years of experience she states,

> You just have to step back, look at the needs of the class, just teach to their needs, and not worry about the test as much... I can't be teaching to that test all the time. Certainly it's in the back of my mind. I kind of like the test because it gives me certain goals to reach toward. But I don't think any teacher should teach to that test. I think you have to

> know what's expected, and then work with the children you have. (F.G., L. 830-838)

In conclusion, implementing a prescribed curriculum with the pressure of achievement tests is according to these five teachers having a negative effect on how effective they feel they are performing their role. One participant ignores the pressure and two try to improve the student performance through teaching test taking skills.

Teachers' Beliefs and the Implementation of New Curricula

All of the participants indicate they do not teach a curriculum as it is written. To gain a better understanding of the fourth area arising from the individual interview themes, I asked them to discuss the approach they take to the curriculum modifications. Gino indicates he starts from his set of beliefs about teaching.

> You're always starting with certain beliefs. You're always starting with change. You always have to start lower and you adapt the curriculum to suit your style and the needs of your classroom. Sometimes that's a great adaption. Sometimes it's a minor adaption to the curriculum depending on the person in the class. (F.G., L. 551-557)

Ruth concurs with Gino in the approach she takes in implementing a new curriculum. "You look at your class. You look at the curriculum. You see what works for them and consider whatever your knowledge is from previous teaching assignments. Everything works together" (F.G., L. 534-536).

Gino gives an example of why he modifies the new mathematics curriculum putting more emphasis on some topics and reducing the importance he feels other topics should receive.

> In math, addition, subtraction, multiplication, division, place value, decimals; these are important. Whether they know the difference between an isosceles triangle and an equilateral triangle probably doesn't carry much weight. A grade 5 teacher isn't going to come to me

> and say, they don't know isosceles triangles! But she might come to me and say, didn't you do division last year? (F.G., L. 679-678)

This statement illustrates not only the belief, by Gino, in the importance he feels concerning certain mathematics topics but also the pressure he feels as a teacher to appear to be doing an effective job teaching the mathematics curriculum.

Helene indicates she modifies curriculum, first and foremost, to meet the needs of the children in her classroom. However, she adds as a qualifier, it must also meet her interests and needs. She asks, "Does it make sense to me? As a person, do I understand myself?" (F,G., L. 2082-2083). Helene goes on to say topics that do not excite her must be modified. "Two things could happen. First of all, I could work like a dog, and probably do a better job of teaching that unit than anything else. Or, I'll modify it to make it interesting for me" (F.G., L. 2096-2098). George agrees with Helene and states,

> If you don't understand something or if you're not interested, it's very difficult. You're supposed to be interested. So, I think I would change it. The reason I would change it is to make it more exciting to me. Once I made it more exciting for me, I'd be able to make it more exciting for the kids. (F.G., L. 2107-2111)

Experience gained from each year of the implementation process was also an indicator of why and how modifications were made to a mandated curriculum change. Joanne refers to her experience in implementing the new Alberta Education science curriculum. She says, "I found, at least with the science, that each year I've become more knowledgeable, and I've been able to play with it a little bit more. I feel more confident with it" (F.G., L. 539-542). Gino also indicates a difference between each implementation year. He says,

> I still don't think you are accomplishing everything but sometimes it gets better, because you realize what's superfluous. You did this activity last year and it was a complete waste of time... When you have greater background knowledge in that second or third year, then you can add

> more things. And sometimes that prevents you from accomplishing as much the second and third year because you're doing more interesting, creative things and those things take time. (F.G., L. 735-759)

In conclusion all participants stated their effective teaching beliefs and their beliefs about change affect their decisions in how curricula is modified.

Supporting Effective Teaching in a Mandated Change Process

As a clarification of the fifth area arising from the individual themes each participant indicated changes are needed in the approach government and school boards adopt in implementing new curricula. This research raises the issue of how change advocates address the needs of teachers, who have their own belief systems about implementing specific curricula in their classrooms. Each of the participants stated present approaches to implementation are inadequate to his or her particular needs. To gain an understanding of the problem and the perceived solutions, I asked the participants to share their thoughts on the issue.

From my analysis of their statements, their comments can be divided into two groups. The first group addresses the issue of how policy makers can aid them to be more effective as teachers and change agents. The second deals with how the implementation process could be improved to enhance their effective teaching.

With regard to the first issue, all participants felt they were not as effective in their teaching due to the number of students they are asked to teach. All participants advocated smaller class sizes. With financial cut backs in the past four years, teachers have more students, on average, to teach. When I queried their class size expectations for optimal effective teaching, the numbers ranged. Gino indicates the problem most encounter when he says, "If I had 35 who just sat there and adoringly looked up to me, that's great, but..." (F.G., L. 1136-1137). Life in the classroom is not composed of perfect students being taught by perfect teachers. Gino states,

> One of the things is we get such a range of students in that it's hard to meet everybody's needs. If the parents aren't supportive, if there's disruptive behaviour, and if it's a large class, sometimes it's hard to be effective. And time isn't the cure. You can spend more and more and more time and all that ends up doing is eventually burning you out as a teacher. (F.G., L. 978-985)

Most participants identified more children with special needs in their classes, has greatly increased workload. Joanne raises the issue of what is a "special needs" child. "Is special needs just coded? Because there's many kids who aren't coded as special needs. We have kids who aren't coded but the amount of time we spend trying to chase them and do homework is incredible" (F.G., L. 1120-1123). Gino adds that special needs children add to the workload but consideration is not taken when funds are allotted for maximum class size. Of students with special needs he says, "It takes three times the energy, the time, the preparation, and that's not considered" (F.G., L. 1102-1103).

George sums up the general problems he sees confronting him. "We're introducing technology. We're introducing science. We're introducing math. No extra money. As a result, teachers are angry about it. They're cynical about it. It makes their jobs more difficult" (F.G., L. 2583-2586). He sees the lack of appropriate funds inhibiting his ability to be an effective teacher of change. George states the optimum condition for him.

> Smaller classes to be able to do programs effectively, and a one time shot of money for the resources the schools are going to need. We need more money for in-servicing so teachers can sit down and actually plan the activity in their school...If you had time for teachers to sit down as a grade and say, how are we going to handle this unit. (F.G., L. 2587-2601)

Helene agrees with Gino's assessment and adds,

> I think what we have to do for people with all kinds of belief systems is, we give people time. It's going to be a growth process. No, it's not

> going to be perfection the first year, and maybe people will try one small part of it. And just allow people to grow into it. (F.G., L. 2689-2693)

However, Helene does add that curriculum change has become a revolving door with governments implementing new programs often before the previous programs were fully implemented. She adds, teachers need a school environment where risk and program experimentation can be fostered. Furthermore, Helene believes teacher evaluation by principals should not be done when a teacher is implementing a new program.

Joanne identifies resource support as most important for her. When she considers the implementation process for the new Alberta Science she says,

> The change in the science program is so the kids get more hands on, and I totally agree with that. I learn more with hands on. But when I was thrown this science curriculum. I'm supposed to look for some resources from this book and some resources from the garde 4 textbook. And I don't have a clue what they're trying to achieve, or what the purpose of this experiment. (F.G., L. 1208-1214)

Each participant, either in individual interviews or focus group, identified the lack of support materials as having a detrimental effect on his or her effective teaching. With no additional funds to purchase the support materials they feel they are unable to effectively implement a program. The participants see the need for seed money to be put in place prior to the first year of the implementation process. All agreed the money should not come from existing budgets but from originators of the new curriculum.

In-servicing was also a high priority among participants. As Gino says, "They used to in-service us. They don't any more" (F.G., L. 1181-1182). Joanne advocates a more personalized approach to in-servicing.

> Even having someone come out to your school, so that you're not always running out the door to attend an in-service from 4:00 to 6:00

> p.m. Why not have someone like with the computer technology. When J.B. said, you let me know when you want to do it, I'll come out. I'm going to show you how to teach them because I'm going to do it for you. Then you let me know if you need help, or resources. (F.G., L. 1184-1192)

Ruth adds her voice to the personalization of in-servicing.

> When I had the consultant in language arts come out and teach a writing program, and she came several times, it was incredibly effective. Just going to an in-service after school when you're exhausted is not the way to in-service teachers. They (change agents) have to sort out the program and they have to know where they are going. They have to give the materials to the teachers; not expect us to be scrambling, and running about trying to find everything. (F.G., L. 1243-1251)

Finally, George indicates the need on the part of teachers to work more closely in a change situation. "We think collaboration is important, and we think it's so important we want schools to build it into their plan. Not in the 6 or so many hours of your assigned time" (F.G., L. 2702-2704). George believes professional development funds should be available to bring in substitute teachers, as needed, to permit teachers to sit down and plan curriculum change as a team. Each teacher will implement the change according to his or her belief system but the direction and the approach would be guided by the team of teachers.

In conclusion, each of the participants identified large classes, insufficient resources and inadequate in-servicing as impediments to each being more effective in their role as a teacher of new programs.

CHAPTER VII

BACK TO THE FUTURE

Origins of Beliefs about Effective Teaching

This study illustrates that teachers' beliefs about effective teaching do not originate from one source. The participants indicated several sources which influenced their beliefs about what makes them effective teachers. All of them recounted the influence their parents had on their beliefs. The importance of learning was reinforced through such activities as reading to them when they were young, taking them to the library and sitting down and helping when learning problems arose.

All of the participants remembered effective teachers during their own education. They tried to emulate these teachers. The influence of teachers and professors is well documented in the literature as having a major influence on how beginning teachers learn to teach and the beliefs they bring into their practice. Examples are cited by researchers such as Zeichner & Liston (1987) when they tried to teach student teachers to be inquiry-oriented in learning to teach. Instead of achieving hoped for success, Zeichner & Liston found the program "had little effect on student teachers' perspectives towards teaching" (p. 36). Zeichner & Liston found the beliefs student teachers developed were the result of their own experiences as students and what they believed to be effective teaching. Goodlad (1984) elaborates,

> Teachers teach as they were taught. They employ the techniques and materials modelled during 16 or more years they were students in school. Relatively late in this learning through modelling, they experienced a modicum of professional preparation to teach - presented largely in the same telling mode to which they had become accustomed... Professional education is intended to immerse the

> neophyte in the state of the art and science of teaching and simultaneously to separate him or her from the myths and anachronisms of conventional practice. Teacher education appears to be organized and conducted to assure precisely the opposite. (p. 469)

The participants in this study confirmed Goodlad's view on how beginning teachers develop beliefs for effective teaching. It was not the material which influenced how they learned to teach but the modelling of teachers who influenced them. In effect, it was not the teacher education program but individual teachers that some participants cited as influencing their effective teaching beliefs.

Two additional studies support the hypotheses, that is, that teachers' effective teaching beliefs are based on personal experiences developed over their lifetimes. The first is a study by Stephens et al. (1993) of teachers trained as Reading Recovery teachers and the lack of changes to belief systems after the training ended. They report,

> These findings have led us to tentatively conclude, first, that these 4 teachers' beliefs and practices were embedded within and tied to broader contexts: personal (themselves as professionals and learners), social (support and/or constraints), and historical (previous ideas about what reading is as well as about how to teach and learn reading. (p. 14)

Powell (1996), in a recent study of two teachers commencing their teaching careers after working in different fields from education, illustrates the impact previous experiences have on teachers. Dan, one of the teachers, came to his teaching from a background in science. His effective teaching beliefs centred around a belief that learning is accumulating knowledge. Students learn by being filled with new knowledge. Amy, the second teacher in Powell's study, came from a background in floral design. Her approach to effective teaching was from a subjectivist approach. She became the facilitator of her children's learning. Just as she learned by a hands-on approach, she taught her children in the same way. Powell found after two years of teaching both teachers' effective teaching beliefs changed very little.

Learning what makes an effective teacher goes beyond what is cited in the literature. Each of the participants identified individuals, colleagues, principals or friends, who helped shape his or her concept of an effective teacher. Ruth and Helene remembered teachers with whom they team taught in their early careers. These individuals showed them new teaching methods and approaches which were adopted by these two teachers. Gino remembered the principal in his first teaching assignment who set a personal example of effectiveness in his job. Joanne indicated the teacher in the classroom next to hers had a major influence on her effective teaching beliefs. In conclusion, the effective teaching beliefs these participants hold are the result of the influence of their parents, their teachers, their principals, their colleagues and their children. However, the attributes and personality each teacher brings to his or her role shapes how those beliefs influence the daily practice as a teacher.

Origins of Beliefs about Change

This research examines the constructs each participant believes are essential to be adaptable to change. Once again, as with effective teaching beliefs, beliefs about change originate in diverse ways. Parents, teachers, colleagues, principals, friends and acquaintances influenced each participant's beliefs about change. However, unlike the beliefs about effective teaching, participants did not seek to hold all of the beliefs about change that their parents, teachers, colleagues, principals, and friends displayed. Participants recognized individuals who were very adaptable to change but, while they may admire some of their qualities, they did not seek to embrace those qualities to the same extent. Each indicated he or she possessed the constructs to varying degrees.

In conclusion, each participant indicated he or she has an adaptability to change. Furthermore, these beliefs about change originated over the lifetime of each teacher and play a major role when new programs are being implemented.

Changing a Classroom Curriculum

This study addressed the issue of how teachers change curriculum in their classrooms. Changing a classroom curriculum has been studied by several researchers in recent years, examining the issue from different perspectives. Richardson (1990) reviewed two groups of studies on "teacher change." One group looked at how teachers change in response to externally mandated changes. Richardson refers to these studies as being conducted "for the purposes of changing the education system at the state, school district, or school level" (p. 11). The second group Richardson identifies are "learning to teach" studies and these attempt to understand how teachers think at different stages of their careers and what accounts for how teachers think about what they do when they implement programs.

Several researchers (Anning 1986, Clandinin 1986, Elbaz 1983, and Holt & Johnson 1988) in recent years studied how prior teaching experiences have an impact on current practices when curriculum is created in the classroom. This study adds to this knowledge by specifically studying how teachers' beliefs about effective teaching and change influence their decisions when they implement new curricula. All of the participants indicated they modify curriculum to meet the needs of their students and do not implement the mandated curriculum as prescribed.

Beliefs about Change and Implementing New Curricula

Beliefs about change indicate each participant's adaptability to change. Each participant indicated he or she had an understanding of what constructs were needed to adapt to change. However, each had a specific view of how adaptable he or she is to change. As each pointed out, situations in his or her life and career influenced his or her adaptability.

Some of the issues participants identified, when implementing new curricula, were needs of the children, their own needs, their own knowledge base, their own teaching philosophy, resources, external assessment, class size and administrator support. Successful implementation, for these participants, means addressing all of these issues. However, successful implementation is also contingent on previous successes and perceived failures in similar change processes. For example, Gino's adaptability to change is very heavily influenced by government mandated assessment, while Ruth indicated she ignores the influence of external assessment. On the other hand, Ruth finds her adaptability to change is tied to students' needs and class size.

The views of the five participants in this study are not generalizable to the entire teaching profession. However, this study illustrates that teachers do hold beliefs about their adaptability to change. Their experiences throughout their lives and careers do influence their ability to implement new curricula.

Changing Beliefs about Effective Teaching

According to the participants, beliefs about effective teaching are influenced during the first two or three years of the implementation of a new curriculum. All of the participants, to varying degrees, indicated their ratings of themselves as effective teachers declined in the first implementation year and improved in subsequent years.

Beliefs about effective teaching are heavily influenced by parents, teachers, colleagues, principals, and children. From the comments of the participants, beliefs about effective teaching is a changing process over the entire career of the teacher. Banathy (1988) refers to it as "evolutionary learning." According to Banathy, evolutionary learning enables individuals to anticipate and face unexpected situations. It helps them develop the ability to manage change within an environment and within themselves. Evolutionary learning promotes the determination to shape change rather than react to it. It enables individuals to engage their creativity, to explore alternatives, and to design unique systems (Banathy, 1988). Similarly the participants in this study have developed a set of beliefs about effective teaching which is continually evolving. As new relationships are developed beliefs about effective teaching will also change.

Change agents must address the fundamental issue of how belief systems affect teachers' decisions in mandated change. Hargreaves and Fullan (1992) point the way. "Teacher development involves changing the person the teacher is... To focus on behavioural skills alone without reference to their grounding in or impact on attitudes and beliefs is misguided and liable to prove ineffective" (p. 7). Young & Lee (1984) add their voices in their study of implementing English as a foreign language curriculum. They state, "...without effecting a change in teachers' attitudes any systemic innovation in the curriculum...will not have a significant effect on what goes on elsewhere" (p. 184).

In conclusion, this study confirms the importance of each teacher's belief system and the impact it has on decisions they make in the classroom on a daily basis. When a new curriculum is being implemented the individual teacher must address the change in light of his or her belief system. The aim of each teacher, in ideal situations, is to be a highly effective teacher. When mandated change is introduced, some teachers embrace it, some consider it and may act on it and some may reject it outright. Policy makers and change agents have tried to ignore how individual teachers respond to change and the research literature is filled with studies of failure to implement new curricula. Unless teachers' belief systems are taken into consideration, implementation will not take place.

Future Research

This research considered how teachers' belief systems affect their decisions in mandated change. I believe further research should be undertaken to examine the reverse of this statement. What impact does implementing mandated change have on a teacher's belief system? Gino said he embraced change but seemed to struggle with published achievement tests which affect his decisions in teaching effectively. George said he is cynical about policy makers who plan mandated change and then do not follow through with the implementation. He cited the three year delay in implementing the new Western Canadian Protocol Mathematics as an example. While he implemented the program, he found himself alone and unsupported by Alberta Education, his Board and his colleagues. These two examples provide evidence that further research is needed to determine the effects mandated change over a career has on belief systems of teachers.

Implications for Practice

Policy makers, program developers and change agents must, first of all, accept the fact that teachers do not implement new curricula as it is prescribed. All of the teachers in this study indicated they modify a new curriculum either in the first or second year of implementation. Changes are made to meet the needs of the children or the needs and interests of the teacher. If policy makers, program developers and change agents accept this statement as true, they must seek to develop programs which take teacher modifications into consideration. I am not advocating a more or less prescriptive curriculum as an answer to modification. Rather, I am advocating policy makers, curriculum developers and change agents must address the approach taken to aid teachers in implementing new programs when teachers' belief systems are considered. One shot in-service workshops must be abandoned for more personalized in-service approaches.

Implications for In-servicing Practising Teachers

In recent years teachers' belief systems are being acknowledged as having an impact on how teachers engage in practice. However, honouring each teacher's belief system has not been seriously dealt with in in-service during change initiatives. Smorgasbord professional activity days take place in many jurisdictions but these approaches to change do not address the needs of the individual teacher. The participants in this study state one shot deals do not meet their needs. In-services held after school, when participants are tired, serve very little purpose. This study calls on all policy makers and change agents to reevaluate their approach to implementing mandated change.

Those who promote change must realize, as this study illustrates, there is no implementation strategy that will work for all teachers. Each teacher will devise his or her own strategy for implementing a new curriculum based on his or her belief system. Furthermore, the implemented curriculum will look different in every classroom. All of the participants in this study acknowledged the need for a standard prescribed curriculum. However, they object to a government assessment approach that makes the assumption each curriculum implementation is identical in all classrooms. According to some of the participants external pressures from achievement tests reduce their ability to be effective teachers. In effect, their beliefs about effective teaching run counter to the policy maker's desire to achieve effective teaching through the use of published standardized test results.

Professional development must be tailored to the needs of each teacher in a change process. Combs (1988) indicates how professional development should be conducted so as to honour each teacher's beliefs but also aid them in the development of new beliefs about effective teaching. According to Combs, changing people's beliefs requires creating conditions for change rather than imposing reforms. It requires open systems of thinking. It requires an atmosphere in which relationships are friendly, individuals feel important, and their participation is encouraged and valued. People must have opportunities to:

1) confront ideas, problems, beliefs, values, goals, objectives, and possible alternatives;
2) discover and explore new ways of seeing and thinking in interaction with others; and
3) Experiment, make mistakes, modify positions, and try again, preferably with others of like mind.

Implementing new curricula imposes stress on each teacher. Effective teaching declines in the first year of the new curriculum. The participants stated the implementation process can be exacerbated by the action or inaction of governments and school boards. Often curriculum change is rushed into schools with very little field testing to determine problem areas. All of the participants cited a lack of background knowledge for teachers and lack of resources to implement some programs. This study indicates the need to ensure all external support is in place prior to the implementation of a new curriculum. No program should be implemented without each teacher receiving supporting materials.

There is some deviation in the opinions of the participants as to when in-service support should be given to teachers. Some indicated the need for prior in-servicing while others wanted assistance throughout and one wanted it at the beginning of the second implementation year. However, all of the participants stated the need for on site assistance rather than attending centrally held workshops. All believe change is unique to their classroom and their school. However, there was some advocacy for small groups of teachers assembling during the school day to sort through the issues Combs identified.

Implications for Pre-Service Teacher Education

Hopper (1996) states, "In teacher education we teach pre-service teachers worthwhile content and technical skills which we believe, if learned correctly, can be meaningfully applied to teaching situations" (p. 179). This approach to teacher education indicates there is a body of knowledge and skills a new teacher can learn which will make them effective teachers. This research illustrates that far more than knowledge and technical skills make up a teacher's belief about effective teaching.

Teacher education must address the issue of the beliefs about effective teaching each pre-service teacher brings to the role. Part of the teacher education program must aid each student in uncovering their beliefs about effective teaching and change and open discussions.

Relationships with effective professors in the teacher education programs was cited by some participants as helping them construct their effective teaching beliefs. Therefore, teacher educators are not only responsible for delivering the content of their subjects but acting as role models for effective teaching. As well, this study illustrates the importance of the relationship each teacher educator develops with each of his or her students.

This research also shows that beliefs about effective teaching and change are not static but are constantly evolving. Teacher educators can influence a pre-service teacher's beliefs about effective teaching and change through the relationships they establish with their students.

The Past Leads to the Future

I commenced the Ph.D. program after twenty-seven years in education and five years in small business. Almost my entire working experience has been as a leader. That experience equipped me to organize people to accomplish tasks. I must have been extremely effective in that role as I was often sought by others to fulfil a leadership role in many situations. However, completing the research and writing of this dissertation convinced me I only understood part of what it means to be a leader.

Throughout my career, like George, I was on the leading edge of change. I voluntarily implemented change before it was mandated. I wanted to be a leader of change. However, I was unaware of how my actions influenced others who worked for me. I never considered how change affected my employees. I assumed, because I was excited about change, they would be too. Furthermore, I never took the time to think about my belief system. I was too busy implementing new programs and completing the day to day operational demands of the school to consider what effective teaching and change meant to me.

The Excellence in Learning Skills project caused me to question all of my beliefs about change. With all the resources and support teachers required for implementing change I saw the emergence of each teacher's beliefs affecting his or her decisions. From that experience I knew that leadership in change contained many issues I did not understand.

Writing this dissertation has been a road of discovery. I now understand the importance of the individual in change. We come to the teaching role with a personal history which shapes our perception of effective teaching. This research illustrates the importance of parents, teachers, colleagues, principals, and children in the development of how we understand effective teaching.

I now understand the role of leader in a totally new way. I can no longer implement change in a school or jurisdiction as I once thought. I can no longer expect change to be the same in every classroom. Each teacher must evaluate and implement change using his or her belief system as the guide for his or her decisions. My role, as leader, is to aid each teacher to facilitate that process.

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APPENDIX A

REPERTORY GRID ELEMENT ELICITATION

INSTRUCTIONS:

Think back over your life about teachers and individuals who had both a positive and negative effect on you and complete the following:

1. Who was your most effective primary (div. 1) teacher? ____________________
2. Who was your least effective primary (div. 1) teacher? ____________________
3. Who was your most effective junior (div. 2) teacher? ____________________
4. Who was your least effective junior (div. 2) teacher? ____________________
5. Who was your most effective junior high teacher? ____________________
6. Who was your least effective junior high teacher? ____________________
7. Who was your most effective senior high teacher? ____________________
8. Who was your least effective senior high teacher? ____________________
9. Who was your most effective university teacher? ____________________
10. Who was your least effective university teacher? ____________________
11. What teacher would you most like to emulate? ____________________
12. What teacher would you definitely not emulate? ____________________

Information collected on this form will be held in strict confidence between the participant and the researcher.

APPENDIX B

REPERTORY GRID ANALYSIS SHEET: ANECDOTAL FRAME OF REFERENCE AND THEMATIC THOUGHT OBJECTS

FRAME OF REFERENCE (ANECDOTAL)

FRAME OF REFERENCE (ANECDOTAL)

Teacher Roles (elements)

Positive Polar Construct	Element Totals →																	Bipolar Construct		Negative Polar Construct
																			←	
																			T	
																			O	
																			T	
																			A	
																			L	
																			S	
																			←	

APPENDIX C

REPERTORY GRID ELEMENT ELICITATION

INSTRUCTIONS:

Think back over your life about teachers and individuals who responded to change in different ways and complete the following:

1. Name a teacher who taught you in new and creative ways. ______________________
2. Name a teacher who taught you in ways you consider antiquated.__________________
3. Name a university professor who seemed to teach in new and creative ways. ______________________
4. Name a university professor who never seemed to change his or her way on teaching. ______________________
5. Name a teacher you admired for implementing new ideas.______________________
6. Name a teacher who would never try anything new. ______________________
7. Name a person who would try anything new. ______________________
8. Name a person who would never try anything new. ______________________
9. Name a person who seems to be open to new ideas. ______________________
10. Name a person who seems closed to new ideas. ______________________
11. Name a person who seems to take risks. ______________________
12. Name a person who always plays it safe. ______________________
13. Name a person who listens to everybody's opinions. ______________________
14. Name a person who never listens to anyone else's opinions?____________________